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Rhode Island Medical Journal

January, 1979

Vol. 62., No. 1



37th Annual Charles V. Chapin Oration

See Page 7

Newsletter Enclosed

10 Snattuck Street #510
Boston, MA 02115
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THE MESSAGE OF TENSION

HEADACHES
SWEATS


TENSE, TAUT MUSCLES
HYPERVENTILATION

TACHYCARDIA
PALPITATIONS

BURNING IN STOMACH
FULLNESS

FREQUENCY

to relieve psychic tension
and its functional symptoms

VALIUM®
(diazepam) 

2-mg, 5-mg, 10-mg scored tablets

VALIUM® (diazepam)

Before prescribing, please consult complete product information, a summary of which follows:

Indications: Tension and anxiety states, somatic complaints which are concomitants of emotional factors, psychoneurotic states manifested by tension, anxiety, apprehension, fatigue, depressive symptoms or agitation; symptomatic relief of acute agitation, tremor, delirium tremens and hallucinosis due to acute alcohol withdrawal; adjunctively in skeletal muscle spasm due to reflex spasm to local pathology; spasticity caused by upper motor neuron disorders; atelosis; stiff-man syndrome; convulsive disorders (not for sole therapy).
The effectiveness of Valium in long-term use that is, more than 4 months, has not been assessed by systematic clinical studies. The physician should periodically reassess the usefulness of the drug for the indi-

Contraindicated: Known hypersensitivity to the drug. Children under 6 months of age. Acute narrow angle glaucoma, may be used in patients with open angle glaucoma who are receiving appropriate therapy.

Warnings: Not of value in psychotic patients. Caution against hazardous occupations requiring complete mental alertness. When used adjunctively in convulsive disorders, possibility of increase in frequency and/or severity of grand mal seizures may require increased dosage of standard anticonvulsant medication. Abrupt withdrawal may be associated with temporary increase in frequency and/or severity of seizures. Advise against simultaneous ingestion of alcohol and other CNS depressants. Withdrawal symptoms (similar to those with barbiturates and alcohol) have occurred following abrupt discontinuance (convulsions, tremor, abdominal and muscle cramps, vomiting and sweating). Keep addiction-prone individuals under close surveillance because of their predisposi-

Usage in Pregnancy: Use of minor tranquilizers during first trimester should almost always be avoided because of increased risk of congenital malformations as suggested in several studies. Consider possibility of pregnancy when instituting therapy; advise patients to discuss therapy if they intend to or do become pregnant.

Precautions: If combined with other psychotropic or anticonvulsants, consider carefully the pharmacology of agents employed, drugs such as phenothiazines, narcotics, barbiturates, MAO inhibitors and other anxiolytics. Valium may potentiate its action. Usual precautions indicated in patients severely depressed with latent depression, or with suicidal tendencies. Observe usual precautions in impaired renal or hepatic function. Limit dosage to smallest effective amount in elderly and debilitated to preclude ataxia or oversedation.

hypotension, changes in libido, nausea, fatigue, depression, dysarthria, lachrymation, skin rash, ataxia, constipation, headache, incontinence, changes in taste, blurred vision, Paradoxical reactions such as anxiety, hyperexcited states, anxiety, hallucinations, muscle spasticity, insomnia, rage, sleep disturbance, stimulation have been reported. Should therapy be discontinued, isolated reports of "rebound" effects, including periodic blood counts and liver function tests, a stable drug-free period, therapy.



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Accept no substitute for your professional judgment

As a physician, you have the right to prescribe the drug which you believe will most benefit your patients. Now, substitution laws make it more difficult to exercise that right. In many states, unless you specifically direct pharmacists to dispense your brand-name prescription as written, they may be required by law to substitute another drug for your brand-name prescription.

This means that the ultimate drug selection is no longer yours; its source is left to the pharmacist's discretion. You will have forfeited your right to prescribe as you see fit. Preserve your rights. Specify that you will accept no substitution.

When you accept no substitutes...

- You ensure that your patient receives exactly that product you have specified on your prescription
- You choose the quality of the product dispensed to your patient
- You can exercise the right to select a product based upon its proven therapeutic performance and to select a manufacturer that stands behind its brand name or generic product
- You can support the kinds of research programs that are vital to new drug discovery and development
- You can help sustain important physician, pharmacist and patient education services supported by innovative, research-oriented firms

For complete information on the drug substitution law effective in your state, please consult your local Pfizer Representative

Rhode Island Medical Journal

JANUARY, 1979

VOLUME 62, No. 1

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Rhode Island Medical Society

NEWSLETTER

James R. Clarkin, *Editor*

January, 1979

New Members

The Rhode Island Medical Society is pleased to extend a welcome to the following new members:

Betty E. Aronson, Pediatrics/Virology
John J. Bert, Obstetrics/Gynecology
Dinesh V. Bhat, Otolaryngology
Charles J. Brex, III, Internal Medicine
Terrence F. Cahill, Obstetrics/Gynecology
Robert F. Caspari, Internal Medicine
Pon-Sang Chan, Internal Medicine
Bruce S. Chang, Internal Medicine/Nephrology
Fredric V. Christian, Cardiology
Reid W. Coleman, Internal Medicine
Stephen T. Conway, Ophthalmology
Joseph DiBenedetto, Jr., Hematology/Oncology
Robert G. Ellison, Hematology/Internal Medicine
Raymond G. Endreny, Internal Med./Nephrology
Edward R. Feller, Gastroenterology/Internal Med.
Donald B. Fletcher, Jr., Diagnostic Radiology
Ronald M. Gilman, Internal Medicine
Tom Keller, Psychiatry
Roland D. Landry, Cardiology
Kenneth S. Latchis, General Surgery
Daniel H. Lederer, Pulmonary Disease
William D. Levin, Family Practice
Harold J. Levinson, Cardiovascular/Thoracic Surg.
Philip R. Lucas, Orthopedics
David Mayer, Internal Medicine
Bernard A. Moule, Urology
Michael S. Olin, Family Medicine
John A. Pella, Internal Medicine/Pulmonary Diseases
Frank A. Pensa, Obstetrics/Gynecology
S. Thirugnana Sambandam, Internal Medicine/Hematology/Oncology
Osama El-Demerdash Sarhan, Internal Medicine
Wu-Hsiung Su, Internal Medicine/Oncology
Joseph T. Tarpey, Pulmonary Diseases
Richard R. Thompson, General Surgery
Peter A. Tutschka, Diagnostic Radiology/Nuclear Medicine
Safa F. Wagdi, Ophthalmology
Ronald P. Zinno, Plastic/Reconstructive Surgery

Meeting Dates

The schedule of RIMS Council and House of Delegates meetings for the winter and spring, 1979, is as follows:

Wednesday, February 7th* — House
Monday, March 5th — Council
Wednesday, March 21st — House
Wednesday, May 16th — Annual Meeting

* Corrected from Newsletter, June 1978

All Society members are invited to attend any meeting of the House of Delegates as spectators.

From the AMA

Highlights of the Interim Meeting of the House of Delegates in December in Chicago included:

- The House "acknowledged and affirmed" the authority of the Board of Trustees to settle a lawsuit involving chiropractic in Pennsylvania.

- AMA President Tom Nesbitt, MD stressed the need for unity if the Association is to carry on its fight against a ruling by a Federal Trade Commission law judge that charges the Association with restraining physician advertising and physician participation in certain health delivery systems.

- The House voted to recommend to Congress modifications of the present health care system and called on the Board of Trustees to sponsor legislation, if necessary, embodying several principles for minimum standards of health insurance coverage.

District Items

The Women's Auxiliary of the Providence Medical Association will again this year make a scholarship award to a deserving medical student. The Auxiliary urges members to contribute to this worthwhile project.

The Washington County Medical Society has voted to allocate 10 per cent of their funds after expenses to the Benevolence Fund of the Rhode Island Medical Society.

The Newport County Medical Society presented to the Board of Trustees of Newport Hospital two checks of \$500 each. These were a donation to further the CME program of the hospital, and a contribution to the purchase of a \$10,000 microscope slide viewer for the Department of Pathology.

State Board Openings

Dr. Joseph E. Cannon, Director of Health, has requested the names of physicians who may want to be considered for appointment to the following Boards:

Chiropractic Board — 1 physician
Electrolysis Board — 1 physician
Osteopathic Board — 1 physician
Board of Examiners in Medicine —
2 physicians

Please call the Executive Office (331-3207) if you are interested in being considered for any of the above.

Titles for Library

The Library is now preparing its book acquisitions list for 1979. If you know of any new books in your field that should be purchased, please call Miss Judith Zimmer, Librarian, 331-3208.

National Briefs

The Health Care Financing Administration of HEW has announced a proposed rulemaking that would "establish procedures under which the Department will invoke sanctions against a practitioner or provider who furnishes or orders items or services which: (1) Are not medically necessary, (2) do not meet professionally recognized standards, or (3) are not properly documented as to the medical necessity or quality of the services." The purpose is "to discipline providers and practitioners and protect the public."

A three-year extension of the HMO program was signed into law by President Carter. The bill authorizes a total of \$164 million over the next three fiscal years and increases from \$1 million to \$2 million the maximum amount of an initial development grant. Tougher fiscal reporting requirements are included. Under the Law, loans may be made for health maintenance organization ambulatory health care facilities.

The Democratic Party, at its midterm convention in Memphis, Tennessee approved a resolution declaring that the party "reaffirms the health care pledges made in the 1976 National Party Platform and calls upon the 96th Congress to enact legislation implementing the foremost of those pledges — national health insurance."

HEW Secretary Joseph Califano wants medical schools to reduce the size of their classes, and he is opposed to the creation of new medical schools. He made these views known at the last annual meeting of the Association of American Medical Colleges.

Placement File

The executive office receives many letters from physicians interested in locating in Rhode Island. These are kept in a file, which is available for review by members.

In pharyngitis and tonsillitis

...prompt temporary relief
of pain even before
patients leave
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mouthwash/gargle/sore
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Proven Anesthetic Effectiveness

Spraying the throat with CĒPASTAT brings soothing relief within minutes. Your patients will appreciate this relief while waiting for therapeutic measures to take hold. The well-established anesthetic effects of CĒPASTAT provide soothing temporary anesthesia to the irritated or inflamed oropharyngeal mucosa.

CĒPASTAT in your treatment room . . .

Used as a spray, CĒPASTAT is more likely to deliver the most relief to the painful area of the throat.

Suit the product to the patient . . .

The liquid is best for use at home as a spray or gargle. Lozenges are ideal for patients on the go.

A recommendation is best . . .

It costs less. Keeps the emphasis where you want it . . . on more important counter-measures — your prescription for anti-infectives, for example.

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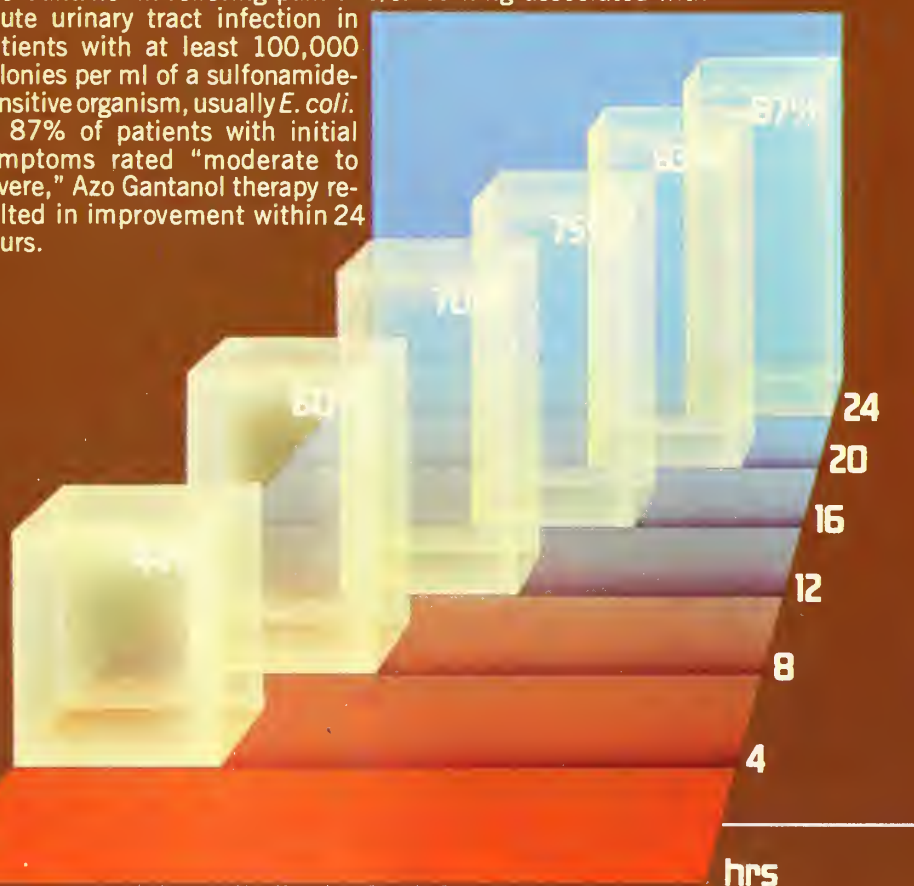
relief of minor
sore throat when
patients want it . . .

stat

Important data on the pain of acute cystitis:

In 87% of patients studied (303 of 349), Azo Gantanol[®] reduced pain and/or burning within 24 hours*

A controlled, multicenter study assessed the efficacy of Azo Gantanol in relieving pain and/or burning associated with acute urinary tract infection in patients with at least 100,000 colonies per ml of a sulfonamide-sensitive organism, usually *E. coli*. In 87% of patients with initial symptoms rated "moderate to severe," Azo Gantanol therapy resulted in improvement within 24 hours.



Fast pain relief plus effective antibacterial action

Azo Gantanol[®]

Each tablet contains 0.5 Gm sulfamethoxazole and 100 mg phenazopyridine HCl.

for
the pain

for
the pathogens

Before prescribing, please consult complete product information, a summary of which follows:

Indications: In adults, urinary tract infections complicated by pain (primarily pyelonephritis, pyelitis and cystitis) due to susceptible organisms (usually *E. coli*, *Klebsiella-Aerobacter*, *Staphylococcus aureus*, *Proteus mirabilis*, and, less frequently, *Proteus vulgaris*) in the absence of obstructive uropathy or foreign bodies. **Note:** Fully coordinate *in vitro* sulfonamide sensitivity tests with bacteriologic and clinical response; add aminobenzoic acid to follow-up culture media. Increasing frequency of resistant organisms limit the usefulness of antibacterials including sulfonamides. Measure sulfonamide blood levels; variations may occur; 20 mg/100 ml should be maximum total level.

Contraindications: Children below age 12; sulfonamide hypersensitivity; pregnancy at term and during nursing period; because Azo Gantanol contains phenazopyridine hydrochloride it is contraindicated in glomerulonephritis, severe hepatitis, uremia, and pyelonephritis of pregnancy with G disturbances.

Warnings: Safety during pregnancy not established. Deaths from hypersensitivity reactions, agranulocytosis, aplastic anemia and other blood dyscrasias have been reported and early clinical signs (sore throat, fever, pallor, purpura or jaundice) may indicate serious blood disorders. Frequent CBC and urinalysis with microscopic examination are recommended during sulfonamide therapy.

Precautions: Use cautiously in patients with impaired renal or hepatic function, severe allergy, bronchial asthma; in glucose-6-phosphate dehydrogenase-deficient individuals in whom dose-related hemolysis may occur. Maintain adequate fluid intake to prevent crystalluria and stone formation.

Adverse Reactions: *Blood dyscrasias* (agranulocytosis, aplastic anemia, thrombocytopenia, leukopenia, hemolytic anemia, purpura, hypoprothrombinemia and methemoglobinemia); *allergic reactions* (erythema multiforme, skin eruptions, Stevens-Johnson syndrome, epidermal necrolysis, urticaria, serum sickness, pruritus, exfoliative dermatitis, anaphylactoid reactions, periorbital edema, conjunctival and scleral injection, photosensitization, arthralgia and allergic myocarditis); *G.I. reactions* (nausea, emesis, abdominal pain, hepatitis, diarrhea, anorexia, pancreatitis and stomatitis); *CNS reactions* (headache, peripheral neuritis, mental depression, convulsions, ataxia, hallucinations, tinnitus, vertigo and insomnia); *miscellaneous reactions* (drug fever, chills, toxic nephrosis with oliguria and anuria, periarteritis nodosa and L. E. phenomenon). Due to certain chemical similarities with some goitrogens, diuretics (acetazolamide, thiazides) and oral hypoglycemic agents, sulfonamides have caused rare instances of goiter production, diuresis and hypoglycemia. Cross-sensitivity with these agents may exist.

Dosage: Azo Gantanol is intended for the acute, painful phase of urinary tract infections. **Usual adult dosage:** 2 Gm (4 tabs) initially, then 1 Gm (2 tabs) B.I.D. for up to 3 days. If pain persists, causes other than infection should be sought. After relief of pain has been obtained, continued treatment with Gantanol (sulfamethoxazole) may be considered.

NOTE: Patients should be told that the orange dye (phenazopyridine HCl) will color the urine.

Supplied: Tablets, red, film-coated, each containing 0.5 Gm sulfamethoxazole and 100 mg phenazopyridine HCl—bottles of 100 and 500.

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BROWN UNIVERSITY

DIVISION OF BIOLOGY AND MEDICINE

Providence, Rhode Island 02912

863-3337

A Message From the Dean

The Well-Tempered Medical Student

The day was the third Sunday of December 1978, and the choir was singing the traditional hymn, *Go Tell It On The Mountain*, as part of Brown University's traditional yuletide program of Lessons and Carols. I was one of a large audience in Sayles Hall embraced by the spirited and moving character of the music. Two of the gifted participants in the chorus, I noticed, looked more familiar than the others, for they were Brown medical students (Norman Ward and Lloyd Minor).

Earlier that afternoon, on the same campus, a special holiday show had been assembled for the youngsters of the alumni and alumnae. The two performers, a magician (Neil Leiblich) and a juggler (Steve Davis) had much in common; both had skillful hands; both were deeply committed to their task, were humorous, and especially sensitive to the wonderment of magic as seen through the unglazed eyes of childhood; and both were also Brown medical students.

Later that same day, at the Music Mansion, an excellent concert of classical music was performed before a rapt and appreciative audience which filled the auditorium. The recitalists were medical students (Lloyd Minor, Wilma Schiller, Larry Budner, Sandy Kazura, Bruce Hookway), medical housestaff (Margaret Parker, Rebecca Silliman.), and medical school faculty (Allan Erickson, Steven Zinner). The program consisted of works by C.P.E. Bach, Vaughan-Williams, Bruch, J.S. Bach, and Saint-Saens.

The concert was the latest in a memorable series of irregularly scheduled but enthusiastically received chamber music recitals arranged and performed by the Brown medical students.

The clustering of artistic talent (vocal, instrumental, or sleight-of-hand), particularly when seen sequentially on the same day, was impressive and it reinforced the observation that art and medicine may share a common wellspring. Despite the fact that physicians spend most of their younger, creative years buried in detailed education (learning amongst other things the expendability of both sleep and leisure) and despite the fact that practitioners devote their waking hours to the solemn business of pain, disability, and unaesthetic things, it is truly remarkable to see the multitude of medical students and practicing physicians who have great talent in the graphic, literary, plastic, and musical arts.

Many people have wondered about this intimacy of art and medicine and have speculated that it may represent a means by which physicians cope with the uncompromising realities of their profession. But if it were only painful reality which promoted aesthetic interests and talent, why do we not have more string quartets in our police departments? Still other people have speculated that the compatibility of art and medicine arises from the nature of the medical education process which emphasizes perception rather than satisfaction and co-

existence rather than closure. Still others have wondered whether we are not merely seeing artists, with some scientific skills, attracted to medicine rather than seeing future doctors beguiled by art; and that this attraction but serves as a means of diminishing the insulation which shields most of us from an awareness of both suffering and aesthetic expression.

Whatever the reason, the reality of the abundant and generous talent of these medical students, bestowed upon so many different audiences, was sufficiently compelling to use this precious space to "tell it on the mountain".

Stanley M. Aronson, M.D.
Dean of Medicine
Brown University

Did You Know?

The first Caleb Fiske essay awards were made by the Rhode Island Medical Society in 1836. They were two in number of forty dollars each, the first to Doctor Thomas H. Webb of Providence, corresponding secretary of the society, titled: "What are the causes and nature of Rheumatism, and the best mode of treatment to be employed therein," and the second to Doctor David King of Newport on "What are the causes and nature of Purpura Hemorrhagica, and the best mode of treatment to be employed therein?"

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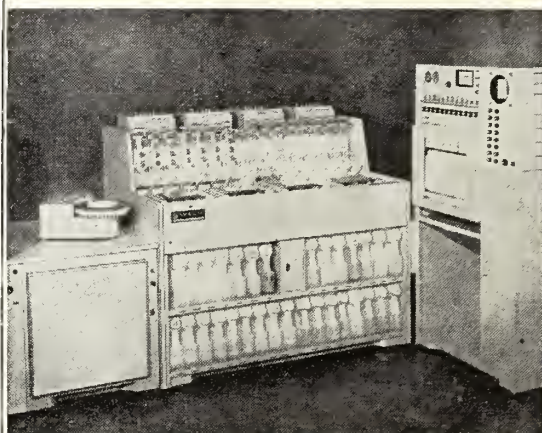
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Dyazide[®]

Each capsule contains 50 mg. of Dyrenium[®] (brand of triamterene) and 25 mg. of hydrochlorothiazide.

Makes Sense in Hypertension^{*}

Before prescribing, see complete prescribing information in SK&F Co. literature or PDR. A brief summary follows:

*** Warning**

This drug is not indicated for initial therapy of edema or hypertension. Edema or hypertension requires therapy titrated to the individual. If this combination represents the dosage so determined, its use may be more convenient in patient management. Treatment of hypertension and edema is not static, but must be reevaluated as conditions in each patient warrant.

Contraindications: Further use in anuria, progressive renal or hepatic dysfunction, hyperkalemia. Pre-existing elevated serum potassium. Hypersensitivity to either component or other sulfonamide-derived drugs.

Warnings: Do not use potassium supplements, dietary or otherwise, unless hypokalemia develops or dietary intake of potassium is markedly impaired. If supplementary potassium is needed, potassium tablets should not be used. Hyperkalemia can occur, and has been associated with cardiac irregularities. It is more likely in the severely ill, with urine volume less than one liter/day, the elderly and diabetics with suspected or confirmed renal insufficiency. Periodically, serum K⁺ levels should be determined. If hyperkalemia develops, substitute a thiazide alone, restrict K⁺ intake. **Associated widened QRS complex or arrhythmia requires prompt additional therapy.** Thiazides cross the placental barrier and appear in cord blood. Use in pregnancy requires weighing anticipated benefits against possible hazards, including fetal or neonatal jaundice, thrombocytopenia, other adverse reactions seen in adults. Thiazides appear and triamterene may appear in breast milk. If their use is essential, the patient should stop nursing. Adequate information on use in children is not available.

Precautions: Do periodic serum electrolyte determinations (particularly important in patients vomiting excessively or receiving parenteral fluids). Periodic BUN and serum creatinine determinations should be made, especially in the elderly, diabetics or those with suspected or confirmed renal insufficiency. Watch for signs of impending coma in severe liver disease. If spiro-lactone is used concomitantly, determine serum K⁺ frequently; both can cause K⁺ retention and elevated serum K⁺. Two deaths have been reported with such concomitant therapy (in one, recommended dosage was exceeded, in the other serum electrolytes were not properly monitored). Observe regularly for possible blood dyscrasias, liver damage, other idiosyncratic reactions. Blood dyscrasias have been reported in patients receiving triamterene, and leukopenia, thrombocytopenia, agranulocytosis, and aplastic anemia have been reported with thiazides. Triamterene is a weak folic acid antagonist. Do periodic blood studies in cirrhotics with splenomegaly. Antihypertensive effect may be enhanced in post-sympathectomy patients. Use cautiously in surgical patients. The following may occur: transient elevated BUN or creatinine or both, hyperglycemia and glycosuria (diabetic insulin requirements may be altered), hyperuricemia and gout, digitalis intoxication (in hypokalemia), decreasing alkali reserve with possible metabolic acidosis. Dyazide[®] interferes with fluorescent measurement of quinidine.

Adverse Reactions: Muscle cramps, weakness, dizziness, headache, dry mouth, anaphylaxis, rash, urticaria, photosensitivity, purpura, other dermatological conditions, nausea and vomiting, diarrhea, constipation, other gastrointestinal disturbances. Necrotizing vasculitis, paresthesias, icterus, pancreatitis, xanthopsia and, rarely, allergic pneumonitis have occurred with thiazides alone.

Supplied: Bottles of 100 and 1000 capsules; Single Unit Packages of 100 (intended for institutional use only).

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**When painful spasm
is the presenting
symptom...**



... in functional G.I. disorders*

Bentyl[®]

(dicyclomine hydrochloride USP)

10 mg. capsules, 20 mg. tablets,
10 mg./5 ml. syrup, 10 mg./ml. injection

helps control abnormal motor activity
with minimal anticholinergic side effects[†]

Demonstrated smooth muscle relaxant activity.

In this double-blind study, twenty patients having G.I. series and exhibiting spasm were randomly selected to receive either 2 cc. of Bentyl or sodium chloride intramuscularly. Ten minutes after the injection another radiograph was taken . . .

. . . Bentyl produced definite relaxation in 8 of 10 patients. The sodium chloride produced relaxation in only 3 of 10. No side effects occurred in either group of patients.



Pylorospasm has almost totally blocked passage of barium meal.



Barium meal beginning to pass 10 minutes after intramuscular injection of 20 mg. Bentyl.

"The correlation of spasm relief and drug given was excellent."

*This drug has been classified "probably" effective in treating certain functional G.I. disorders.

[†]See Warnings, Precautions and Adverse Reactions.

See following page for prescribing information.

Reference:

King, J.C. and Starkman, N.M.: Evaluation of an antispasmodic. Double-blind evaluation to control gastrointestinal spasms occurring during radiographic examination. A preliminary report. Western Med 5:356-358, 1964

Merrell

Bentyl[®]

(dicyclomine hydrochloride USP)

Capsules, Tablets, Syrup, Injection
AVAILABLE ONLY ON PRESCRIPTION.

Brief Summary INDICATIONS

For use as adjunctive therapy in the treatment of peptic ulcer. IT SHOULD BE NOTED AT THIS POINT IN TIME THAT THERE IS A LACK OF CONCURRENCE AS TO THE VALUE OF ANTICHOLINERGICS/ANTISPASMODICS IN THE TREATMENT OF GASTRIC ULCER. IT HAS NOT BEEN SHOWN CONCLUSIVELY WHETHER ANTICHOLINERGIC/ANTISPASMODIC DRUGS AID IN THE HEALING OF A PEPTIC ULCER, DECREASE THE RATE OF RECURRENCES, OR PREVENT COMPLICATION.

Based on a review of this drug by the National Academy of Sciences—National Research Council and/or other information, FDA has classified the following indications as "probably" effective:

May also be useful in the irritable bowel syndrome (irritable colon, spastic colon, mucous colitis, acute enterocolitis, and functional gastrointestinal disorders), and in neurogenic bowel disturbances (including the splenic flexure syndrome and neurogenic colon).

THESE FUNCTIONAL DISORDERS ARE OFTEN RELIEVED BY VARYING COMBINATIONS OF SEDATIVE, REASSURANCE, PHYSICIAN INTEREST, AMELIORATION OF ENVIRONMENTAL FACTORS.

For use in the treatment of infant colic (syrup).

Final classification of the less-than-effective indications requires further investigation.

CONTRAINDICATIONS Obstructive uropathy (for example, bladder neck obstruction due to prostatic hypertrophy), obstructive disease of the gastrointestinal tract (as in achalasia, pyloro-duodenal stenosis), paralytic ileus, intestinal atony of the elderly or debilitated patient, unstable cardiovascular status in acute hemorrhage, severe ulcerative colitis, toxic megacolon complicating ulcerative colitis, myasthenia gravis. **WARNINGS** In the presence of a high environmental temperature, heat prostration can occur with drug use (fever and heat stroke due to decreased sweating). Diarrhea may be an early symptom of incomplete intestinal obstruction, especially in patients with ileostomy or colostomy. In this instance treatment with this drug would be inappropriate and possibly harmful. Bentyl may produce drowsiness or blurred vision. In this event, the patient should be warned not to engage in activities requiring mental alertness such as operating a motor vehicle or other machinery or perform hazardous work while taking this drug. **PRECAUTIONS** Although studies have failed to demonstrate adverse effects of dicyclomine hydrochloride in glaucoma or in patients with prostatic hypertrophy, it should be prescribed with caution in patients known to have or suspected of having glaucoma or prostatic hypertrophy. Use with caution in patients with autonomic neuropathy, hepatic or renal disease, ulcerative colitis—Large doses may suppress intestinal motility to the point of producing a paralytic ileus and the use of this drug may precipitate or aggravate the serious complication of toxic megacolon, hyperthyroidism, coronary heart disease, congestive heart failure, cardiac arrhythmias, and hypertension, hiatal hernia associated with reflux esophagitis since anticholinergic drugs may aggravate this condition.

It should be noted that the use of anticholinergic/antispasmodic drugs in the treatment of gastric ulcer may produce a delay in gastric emptying time and may complicate such therapy (antral stasis). Do not rely on the use of the drug in the presence of complication of biliary tract disease. Investigate any tachycardia before giving anticholinergic (atropine-like) drugs since they may increase the heart rate. With overdosage, a curare-like action may occur. **ADVERSE REACTIONS** Anticholinergics/antispasmodics produce certain effects which may be physiologic or toxic depending upon the individual patient's response. The physician must delineate these. Adverse reactions may include xerostomia, urinary hesitancy and retention, blurred vision and tachycardia, palpitations, mydriasis, cycloplegia, increased ocular tension, loss of taste, headache, nervousness, drowsiness, weakness, dizziness, insomnia, nausea, vomiting, impotence, suppression of lactation, constipation, bloated feeling, severe allergic reaction or drug idiosyncrasies including anaphylaxis, urticaria and other dermal manifestations, some degree of mental confusion and/or excitement, especially in elderly persons, and decreased sweating. With the injectable form there may be a temporary sensation of lightheadedness and occasionally local irritation. **DOSEAGE AND ADMINISTRATION** Dosage must be adjusted to individual patient's needs.

Usual Dosage Bentyl 10 mg capsule and syrup: Adults, 1 or 2 capsules or teaspoonfuls syrup three or four times daily. Children: 1 capsule or teaspoonful syrup three or four times daily. Infants: ½ teaspoonful syrup three or four times daily. (May be diluted with equal volume of water.) Bentyl 20 mg: Adults, 1 tablet three or four times daily. Bentyl Injection: Adults, 2 ml (20 mg) every four to six hours intramuscularly only. NOT FOR INTRAVENOUS USE. **MANAGEMENT OF OVERDOSE** The signs and symptoms of overdose are headache, nausea, vomiting, blurred vision, dilated pupils, hot, dry skin, dizziness, dryness of the mouth, difficulty in swallowing, CNS stimulation. Treatment should consist of gastric lavage, emetics, and activated charcoal. Barbiturates may be used either orally or intramuscularly for sedation but they should not be used if Bentyl with Phenobarbital has been ingested. If indicated, parenteral cholinergic agents such as Urecholine[®] (bethanechol chloride USP) should be used.

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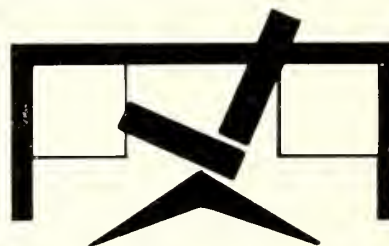
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The Scorecard: How Are We Doing in Health Care in America?

More Has Been Accomplished Than Is Generally Realized, But Much Remains To Be Done.

By David E. Rogers, MD

You do me great honor by permitting me to give the Charles V Chapin Oration today. In reviewing Doctor Chapin's remarkable career I find much to admire and relate to. His interest in the infectious disease world—my own field of research for two decades—makes me feel considerable kinship. His rigorous insistence on hard facts and hard data as a forerunner in public health and his elevation of epidemiology and vital statistics to a place of real science were monumental contributions. Perhaps most impressive, despite the fact that his work dealt primarily with the health of people as **groups**, he never forgot the fact that those groups consisted of **individuals** who were husbands and wives and children. Doctor Walsh McDermott, one of my colleagues, would label his concern "statistical compassion". Doctor Chapin kept very much before him the needs of individual human beings, which is what most of us as personal physicians are all about. Thus I am doubly grateful and honored to have this opportunity.

Read at the 167th Annual Scientific Assembly of the Rhode Island Medical Society, May 17, 1978.

DAVID E. ROGERS, MD is President of The Robert Wood Johnson Foundation, Princeton, New Jersey.

In attempting to follow some of Doctor Chapin's principles I thought I might try to give you some statistics—some of them hard, some of them less so, which have permitted me to get a better fix on how we are actually doing as a nation in delivering health to Americans today.

Thus, today I will try to give you a brief analysis of how Americans are faring in terms of receiving ambulatory care, a little of what has happened to the collective health of Americans over the last decade, wherein lie the remaining shortfalls, and what we might be doing to correct these.

Period of Self-Doubt

To start you on this journey, let me remind you of our perceptions about American medicine and health as they were about a decade ago. As you recall, that was a period of profound self-doubt. We were in the midst of a protracted and unpopular war. We were struggling with discouraging problems in housing, education, race relations, and medical care; and many doubted that a nation governing herself as we do could cope with these distressing conditions.

This was a striking shift in American outlook, and stood in striking contrast to the attitudes we had about our nation in the post-

World War II Period. That was a period of great enthusiasm. We were going to abolish all the inequities that existed in our society. We made some large commitments to improving all aspects of the social scene, medicine being one of them. The programs of the new frontier, the programs of the Great Society illustrated our convictions that we could solve all of the problems that were plaguing us.

By the late 60s that attitude had changed. People were realizing that we hadn't been able to deal very effectively with these social ills, and concerns about medicine were high on the list of American dissatisfactions.

First and foremost were the concerns about the cost of care. National health expenditures had risen 250 per cent in a decade and seemed to be accelerating.

Second were the concerns about the availability of care. People seemed to have trouble finding their way to physicians, and this was particularly true if one was black, or if one was poor.

Third, there was a lack of fit between the kinds of physicians that were being turned out and the kind that were perceived as needed by the public. We were producing too many specialists and not enough generalists.

Fourth were the geographic inequities in distribution of physicians and other health professionals. While Boston or New York City could claim 250 or 300 doctors per 100,000 people, many inner city and rural areas had less than 50.

Lastly, there were great concerns about the shortage of physicians. It was stated that we needed 50,000 new physicians and many more nurses and other health professionals, and institutions were not turning them out.

This, then, was the situation a decade ago, and there was concern among our citizenry about whether a society that governed itself as we do could really change the situation. So what is the reality today? Are we doing better, or are we doing worse? The answer is encouraging: We are doing significantly better. Let me recount the data.

Today's Reality

First, what about physician care? Is it as hard to come by as it was a decade ago? The answer is "No"; people are seeing physicians 20 per cent more often. Further, there is much data to suggest that physicians are more avail-

able to people who need them most. In the 1930s the gap between the visits made to physicians by those in higher income groups and those in low income groups was almost 50 per cent. By 1975 we had eradicated that gap, and those of low income are now seeing physicians just as often as those who come from high income groups. The same applies if one is black. Whereas blacks in 1970 saw doctors 12.5 per cent less often than whites, by 1975 this gap had disappeared. Both of these groups have a much bigger burden of illness than those who are well-to-do.

I would point out that these data should be viewed as fairly soft. Obviously, physician visits vary in their effectiveness and quality. But if you feel as I do, that medical care can improve health, obviously one of the necessary prerequisites for that improvement is getting into the health system. We have made some rather significant strides in improving access to physicians in the last decade.

What about the crisis in the numbers of health professionals we turn out? Here again we have made significant progress. We have markedly increased the number of young men and women who are going into medicine. Enrollments in medical school are up fifty per cent in less than a decade.

The same is true for nurses—70 per cent more are in training than in 1970. The number of dentists in training is up 25 per cent. We also have a whole series of new kinds of health professionals—particularly physician assistants who were an unknown group as the decade started. So this would suggest to me institutional responsiveness of a very high order. They have made quite a striking response to the national mandate to increase the numbers of health professional available—indeed we may be over-shooting the mark.

Organizing Medical Care

During this time a number of programs have also shown that better organized care can significantly reduce hospital costs and the burdens of chronic illness for special groups with special kinds of problems. Let me just cite three examples:

First, it has been shown that rather simple ways of organizing medical care can remarkably improve the outcome of pregnancy. The Frontier Nursing Service reduced infant mortality in its area of operation by 65 per cent

in a ten-year period with a very simple system of appropriate prenatal and midwife care. A recent study from Georgia showed a drop in infant mortality of 40 per cent in four years in counties which put in a better-organized system of care for expectant mothers.

Secondly, it has been shown that better-organized programs can significantly reduce the amounts of illness, hospitalization, and costs for the care of children. These are nice studies from Washington, Rochester, and Baltimore showing markedly reduced morbidity, school days lost, and a drop in hospitalization of children by 40 to 50 per cent.

Lastly, there are now several studies which show that the organized care of people with certain kinds of chronic illness can permit us to do much better. In Memphis Doctor John Runyon has shown with a carefully organized system of nurse-managed clinics for diabetics that he can cut the costs of diabetic care by 80 per cent while reducing the amounts of hospitalization and improving patient performance and comfort.

All of these efforts indicate that we have made significant strides in improving patient care. With these improvements one might ask "Are there any changes in our health statistics?" Again the answer is "They are significantly better." I would make the important caveat here: I am **not** suggesting that better access to medical care or better organized care is the reason for the improvements in health I am about to detail, but it's nice to see them both going in the same direction.

Improving Health Statistics

First, age-adjusted death rates in the United States have been falling for almost fifteen years. They have changed quite remarkably in the last five years with a 9 per cent drop in overall age-adjusted death rates. Similar changes have occurred in infant and maternal mortality. Since 1960 there has been a 38 per cent drop in infant mortality and a 71 per cent fall in maternal mortality. I would submit that this is a sign of progress. A similar change has taken place in deaths due to coronary artery disease. While popular literature and television programs would suggest that deaths due to coronary disease are steadily increasing, in point of fact death rates from coronary artery disease peaked in 1963, and they have been going down ever since. In the last eight years

they have fallen 18 per cent. That we don't know the reason for this fall is frustrating. Is it less smoking? More jogging? Less cholesterol? We don't know, but it should not make us ignore the fact that these changes are occurring and that this has been true of eleven of the fifteen major killers of Americans.

So these are the encouraging changes. We have an adequate number of hospitals reasonably well situated in the United States. We have adequate numbers of health professionals to deal with our medical care problems if we deploy them appropriately. More visits are being made to physicians than a decade ago, and those who are poor or black are getting their share. We have shown that better organized systems of care can reduce the costs and morbidity and mortality for certain groups with special problems. Along with these changes we have some gross indications of improving American health. These facts should give us confidence about tackling the remaining problems.

The Remaining Agenda

First and foremost we must control costs. Costs of health care are now viewed as unacceptable by many, and it is costs that threaten to block our progress in a number of fields in which we have more professional expertise.

Second, there continue to be some special groups that aren't getting the care they need or to which we don't know how to deliver.

There are basically five groups that are having a difficult time: poor children, the poor elderly, those who live in isolated rural areas, people who have long-term chronic illnesses, and the handicapped. All of these groups share certain characteristics by virtue of their age, their dependency, or their helplessness. They need help from others to get into the system. We need to find some ways of getting them to care, or to get care to them. They cannot do it themselves.

This says something sad to me about the erosion of the human support system which has characterized this country. As families have fragmented, as other social systems that were supportive or helpful to those alone, or to young, or too helpless have begun to fray, we simply haven't found ways of doing this job. Lastly, we also need to be concerned about the "texture" or the quality of our physicians'

interactions with patients. The visit of a poor mother to a crowded outpatient department, or Medicaid Mill, is not quite the same kind of care that my wife receives when I call one of my colleagues. We need to think more carefully about how can we improve the quality of those kinds of interactions.

What Can Be Done

How can we get at this remaining agenda? The toughest problem is how are we going to restrain the escalation of medical care costs? Here I tread on shaky ground. I am not an economist, but I have seen no plans that will make medical care inexpensive. In my judgement Americans want quality care, they recognize that it will cost a lot, and they are to date willing to pay for it. However, we have got to begin to bring cost and growth rates down to where they more nearly resemble what is happening in others sectors of our economy.

If you look at the ingredients of those costs, you will find that they are difficult to affect. We are not going to dismantle our high technology hospitals. We are not going to abandon our modern medical technology. We are not going to pay low wages to hospital personnel or others working in the health care industry, although that was their situation in times past. But it seems to me we could begin to slow the escalation of cost if we really begin to put major efforts into improving the way we deliver care outside the hospital, training more generalists for those careers, and regionalizing high cost technologies and services for special groups.

Focus On Ambulatory Care

I suggest a major focus on ambulatory care, because it is the hospital that costs the money. As a simple illustration: if we had cut one day off the hospitalization for every American who was hospitalized last year, we would have saved two billion dollars. To do this we will need to find new ways of financing ambulatory care. Our present insurance system forces medical care towards the hospital, and we must redress this situation. We as a profession must also decide how many cobalt units, or CAT scanners, or cobalt units are needed in a region; and we will have to be tough-minded about their allocation, or others will do it for us.

Clearly, we should plan ways to improve access to care for those groups that remain

underserved. Here the central problem is how can we get the needed help to them, or how can we get them into the system? Here, it seems to me, we might find some new ways of harnessing man's basic tendency to help others. They need families, advocates, helpers to bring them into the fold. We need to reestablish some of our concepts of volunteerism to get this job done. Why not develop some imaginative roles for unemployed teenagers or lonely but healthy elderly to assist these groups? To aid in bringing better care for children we need better financing for such care. For the elderly we need more programs that will not institutionalize them. For those with chronic illnesses we need better organized systems, probably staffed by people other than physicians, to help these people carry out the kinds of programs we have prescribed for them.

This, then, is where I come out in May of 1978. My message is that we have much in our system which is good to build on. During the last decade we have made some very real improvements in getting people to physicians. We have narrowed the gap between the amounts of care received by the well-to-do and by those who are poor and from minority backgrounds. We have shown that better organization of care for special groups can reduce costs, morbidity and mortality, and the burdens of chronic illness. We also have some gross indications that the health of Americans is improving. All of these encouraging changes for the better should give us the confidence necessary to move on with our unfinished agenda.

Summary

Medical care is too expensive. It is getting more so, and we simply have to roll up our sleeves and decide that we can curb these costs. We have several special groups of people with special needs who are not receiving the care that they need, but we really know what is required. We need to organize and deploy medical personnel and others differently to get it done.

In my judgement these are not insurmountable tasks. It's a difficult agenda, and it will require the cooperation of many. Be that as it may, I think we should get on with the tasks for reasons that I find compelling.

First, and most basically, we should correct

the remaining inequities simply because it's right to do so. We have a long tradition in this country of helping those who can't effectively help themselves, and I think it's in keeping with the ethos of American medicine to get on with it.

Secondly, it is an agenda of manageable size. Access to medical care is no longer a problem for the majority of Americans. However, leaving out even a small number, or failing to treat any who are suffering potentially correctable illnesses, seems unacceptable especially in our nation. Developing programs which can bring those groups into the mainstream of American medicine is well within the range of what we can afford. I think we once again need to be unembarrassed to strive for apparently simplistic goals, such as taking care of our children or our elderly. Let's approach the task with more confidence that we have a social system and a profession which can do it, if we work together effectively.

The Robert Wood Johnson Foundation
Princeton, NJ

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Examining political involvement of scientifically training people, Heath Larry, President of the National Association of Manufacturers, recently commented:

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MORNING SESSION: CLINICAL PRESENTATIONS BY THE STAFF MEMBERS

9:15 am "Endoscopic Retrograde Cholangiopancreatography
(ERCP): Indications and Results" by
Edward R. Feller, MD

9:35 am "Unusual Duodenal Pathology: Case Reports and
Review of the Literature" by
Stephen Hoye, MD, Joseph Kambe, MD, Philip Lappin, MD,
Edward Feller, MD

9:55 am "The Treatment of Cancer Pain" by
Bruno Borenstein, MD

10:15 am "Benign Palsy of the Sixth Cranial Nerve" by
Robert Curran, MD

10:30 am COFFEE BREAK

10:45 am "Chronic Venous Ulcer: Its Surgical Treatment" by
Frank Schaberg, MD, Paul Healey, MD, Eugene Healey, MD,
Richard Wong, MD

11:05 am "Death During Jogging or Running: A Study of 18 Cases" by
Paul Thompson, MD, Michael Stern, MD, Paul Williams, MS,
Kirk Duncan, MD, William Haskell, PhD, Peter Wood, D Sc

Refractory Hypoglycemia in a Large Neonate

Clinical-Pathological Conference

By William J. Cashore, MD.
Don B. Singer, MD

The following is the clinical history of the subject of this conference: This male term infant was delivered by cesarean section and weighed 4054 grams. The obese mother was 37 years of age with two prior pregnancies ending in spontaneous abortions, each at 11 weeks' gestation. She weighed 240 pounds at delivery, but gained only 25 pounds during pregnancy. She smoked 30 cigarettes daily. She had no glycosuria, and fasting blood sugar was 100 mg/dl at 36 weeks' gestation. Her blood group was B, Rh positive.

This is one of a series of Clinical-Pathologic Conferences conducted under the aegis of the Section of Pathology, Brown University Program in Medicine.

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DON B. SINGER, MD is Chief Pathologist, Department of Pathology, Women & Infants Hospital of Rhode Island; and Professor of Pathology, Brown University Program in Medicine, Providence, Rhode Island.

She came to the hospital in labor with edema of the hands and feet; the urine contained 2+ albumin. Her blood pressure rose to 160/100 mmHg after 20 hours of labor. The membranes were ruptured, releasing foul smelling meconium-stained fluid; 2½ hours later, after vacuum extraction failed, the fetal heart rate dropped to zero. A cesarean section was performed. Apgar scores were 1 at 1 minute and 2 at 5 minutes. Bag breathing was instituted. A chest x-ray film at one hour of age revealed a right pneumothorax and pneumomediastinum. Antibiotics were administered. At six hours of age bilateral rhonchi were heard; the infant breathed 60 times per minute with minimal retractions. The arterial blood pH was 7.24, pO₂ 55.2, pCO₂ 43.3, Hct. 56 vol per cent, calcium 8.5 mg/dl, and total protein 4.7 gm/dl. The blood glucose was 2.0 mg/dl. Incidentally found in the roentgenograms were linear calcifications in the right flank. Excretory urogram located this lesion in the right kidney. No masses were found in arteriograms.

Glucose was given intravenously at rates up to 16 mg/Kg/min to keep the blood sugar between 30-80 mg/dl. By two days of age his respirations had improved. The blood insulin

level was 31uU/ml, and blood sugar 25 mg/dl on the third hospital day. Blood amino acids and organic acids were within normal limits. The urinary glycine was slightly elevated.

Profound hypoglycemia continued. At eight days of age glucose was still administered by peripheral vein. At 11 days of age tonic-clonic seizures began; blood sugar was 25 mg/dl at this time. Calcium levels were normal. At 12 days of age grunting and retractions developed with wet rales in the right lung. Cultures were obtained, and antibiotics were prescribed. A diffuse haziness filled both lung fields on roentgenogram. The respiratory difficulty progressed rapidly. Lasix® and Digoxin® were given. The patient suffered a cardiac arrest a few hours later. The blood glucose ranged between 25 and 30 mg/dl on the last day of life.

Discussion

Dr. W. Cashore*: It is worth repeating the maternal history to decide if some features in the case could have been predicted. The mother was obese, had a poor reproductive history, and came to the hospital in early labor with a large fetus and untested pelvis. Edema, albuminuria, and hypertension were noted, but glycosuria was never present; and a single fasting blood sugar late in pregnancy was normal, 100 mg/dl. The first stage of labor lasted about 20 hours and was followed by a 2½ hour second stage accompanied by meconium staining. After attempted vacuum extraction of the fetus an emergency cesarean section was performed because of a falling fetal heart rate. The large infant was asphyxiated at birth and had hypoglycemia followed by extremely poor control of glucose thereafter.

He also had respiratory distress and calcifications in the right flank. The combination of findings suggest an infant of a gestational diabetic mother, but we need more evidence to establish this diagnosis. Macrosomia was uniform, rather than the characteristic "cherubic" face and disproportionately large, fat body often seen in infants of diabetic mothers. The baby in fact had many features of the "infant giant" as described by Cornblath and Schwartz¹. Infants of diabetic mothers and infant giants have hyperinsulinism which is persistent and intractable in the latter condition. A single plasma insulin value was

elevated, 31uU/ml at 3 days of age (upper limit of normal is 20-25 uU/ml). Prolonged high glucose utilization is suggested, since intravenous glucose up to 16 mg/Kg/min was required. This is nearly three times normal.

The calcification in the right flank appears to be intrarenal, but without functional impairment. A mural aortic thrombus from arterial catheterization could embolize to the kidney, but should also have produced vascular insults to the liver, spleen, or intestine. We have no evidence for thrombi embolic to these organs. Neither was there acute renal ischemia. Most likely this is a calcified renal vein thrombosis, a prenatal lesion. It is worth noting that renal vein thrombosis often occurs in macrosomic infants of diabetic mothers².

The acidosis probably represented metabolic efforts to compensate for hypoglycemia, with increased lactate production and perhaps a high metabolic rate in an irritated brain. Except for the last day of life, the contribution of the lungs to acidosis was minimal. Elevated urinary glycine reflects gluconeogenesis in profound hypoglycemia.

What happened in the brain? The infant initially had asphyxia and later cerebral injury with alternating lethargy and irritability, culminating in frank seizures 24 hours before death. Alternating lethargy and irritability could be due to hemorrhage, to hypoxic/ischemic injury, or to the recurrent hypoglycemia. We can rule out subarachnoid hemorrhage; that usually produces tachypnea with respiratory alkalosis. Intraventricular hemorrhage is uncommon in babies of this size and gestation. An acute embolism or thrombosis seems unlikely, because that would produce a stroke with lateralizing signs, not seen in this patient. An anoxic/ischemic injury due to perinatal asphyxia, and made worse by glucose deprivation, seems most likely.

Bleeding from the oronasopharynx terminally probably came from pulmonary or gastric hemorrhage associated with a severe brain injury. There is no evidence for a disseminated disturbance of coagulation.

We can construct two scenarios in this case. In the first and simpler one perinatal asphyxia in an unexpectedly large infant caused hypoglycemia and cerebral insult resulting in the infant's death. Increased glucose utilization by the injured brain was responsible for prolonged hypoglycemia, and reactive hyper-

*Neonatologist—WIH

insulinism was due to the infusion of large amounts of glucose. The renal lesion was a prenatal insult.

In the second scenario we postulate a disturbance of fetal and neonatal glucose metabolism, due either to gestational maternal diabetes or to idiopathic neonatal hyperinsulinism. In this scenario, too, the difficult delivery caused asphyxia and hypoxic injury to the brain. The underlying carbohydrate disorder prolonged the course and perhaps extended the area of cerebral injury. Over several days the early hypoxia and later hypoglycemia combined to produce a critical cerebral insult with seizures, pulmonary hemorrhage, and death. The well-known association of maternal diabetes with fetal hyperinsulinism, macrosomia, obstetrical difficulties, respiratory distress, hypoglycemia, and renal vein thrombosis supports the second scenario. Unfortunately, we lack evidence for maternal diabetes. We don't have a profile of this newborn's endocrine functions, but certain features suggest the "infant giant" syndrome. Such infants are large at birth, insulin values in the blood are elevated, and intractable hypoglycemia is a cardinal feature. Hypoglycemic seizures are common, and the survival rate is low (about 15 per cent, with mental retardation due to cerebral hypoglycemia the fate of most survivors. Even when diagnosed early, treatment is difficult, usually requiring streptozotocin, or pancreatectomy, or both for control of the hypoglycemia³. Other rare causes of persistent neonatal hypoglycemia include insulin-secreting tumors and nesidioblastosis¹.

Let me emphasize again that perinatal asphyxia is an important feature of both scenarios and may itself explain the infant's death. I suspect, though, a basic disturbance in this infant's carbohydrate metabolism, contributing significantly to demise, and that we'll find some anatomical evidence of such a disturbance at post-mortem. I think the principal anatomical findings will be:

1. Severe brain injury, with cortical necrosis and, possibly, brain stem involvement. The basis for this injury is anoxia, or ischemia or both followed by glucose deprivation, rather than hemorrhage. There may be some hemorrhage into a necrotic area of the cortex.

2. Pulmonary hemorrhage and edema probably developed terminally.

3. Pancreatic islet cell hyperplasia is almost certainly present. The clinical information available does not permit differentiation of islet hyperplasia, islet cell tumor, or nesidioblastosis.

4. Renal vein thrombosis with calcification will explain the calcium in the flank.

Dr. R. Cowett*: Doesn't the poor obstetric history with two abortions occurring spontaneously at early gestation lend support to the diagnosis of maternal diabetes?

Dr. Cashore: Yes, and in any case of neonatal hypoglycemia, maternal diabetes is always a prime consideration, but the data available on the mother's glucose don't support this diagnosis. We should study the mother further.

Dr. Cowett: The treatment was "caught in a chase of the hyperactive beta cell". Glucose was given in large amounts, 16 mg/Kg/min, and this served only to further stimulate beta cell activity. I don't think that the patient was ever able to catch up or close the circle.

Dr. R. Schwartz:** The insulin level was 31uU/ml when the blood glucose was 25 mg/dl. While this insulin level is high, I would emphasize that it is especially high in the face of such a low glucose level. The beta cells in this infant functioned autonomously. It would be difficult to differentiate islet cell adenoma, nesidioblastosis, islet hyperplasia, infant giant, or an unusual infant of a diabetic mother. Eosinophilia of the islets, if present, would favor the latter.

Dr. J. Evrad†: We should emphasize the obstetric components in this case. The mother was obese with two fetal losses and, in essence, was a 37 year old nullipara. She had a long second stage of labor. This much history alone is sufficient to support the decision for cesarean section. At the very least, the fetus should have been monitored carefully. I'm sure we will learn more than this from this case, but this is a lesson in itself.

Dr. G. Anderson††: Doctor Cashore has suggested hypoxia, ischemia, or hypoglycemia as a cause for the brain injury. Mechanical

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**Pediatrician — RIH, WIH

†Obstetrician Gynecologist — WIH, Associate Director of Community Reproductive Health Services

††WIH — Associate Director of Medical Education

forces also may have acted on the fetal head during the unsuccessful second stage of labor. Which of these factors was really responsible for the neurological findings, I wouldn't care to say. In a full-term baby intraventricular hemorrhage is rare; however, anoxia coupled with mechanical trauma to the brain may be sufficient to have produced the lesion.

Dr. W. Oh*: I am glad that Doctor Evrard and Doctor Anderson stressed the obstetric components. These factors contributed greatly to the morbidity and, ultimately the death of this infant. In addition to the points made by Doctor Evrard, the 20 hours of labor with meconium staining observed during rupture of the membranes should have stimulated the consideration for fetal monitoring. A cesarean section could have followed then if an abnormal fetal heart rate developed.

Dr. Singer:** The baby had, after 11 days of life, continued damage in the lungs with residual hyaline membranes. Superimposed on the resolving hyaline membrane disease was diffuse pulmonary hemorrhage, a lesion that occurs in infants beyond 3 days of age who have prolonged hypoxia-ischemia (Fig 1). The two predictions of the brain lesions were both correct. There was intraventricular hemorrhage of major proportions and also anoxic necrosis with leukomalacia (Figs 2 and 3).

Both the brain and lung lesions are often seen in premature infants; yet, we have a very large baby with term features. We strongly considered the diagnosis of infant of a diabetic mother. To support this diagnosis we should find pancreatic islet hyperplasia with bizarre beta cells. That was exactly the case (Fig 4). But there were no eosinophilic infiltrates of the islets. Thrombosis and subsequent calcification of renal veins throughout the kidney were found (Figs 5 and 6). For these lesions to be visible on x-ray immediately after delivery clearly indicates that they developed in utero, probably many days or even weeks prior to delivery. Renal vein thrombosis is known to occur in infants of diabetic mothers but the association is indirect². One of the proposed intermediate mechanisms for vascular thrombosis, with or without calcification, is locally hyperviscous blood⁴ in renal venules. This is compounded by hyperosmolar diuresis in

*WIH — Chief of Pediatrics

**WIH — Chief of Pathology

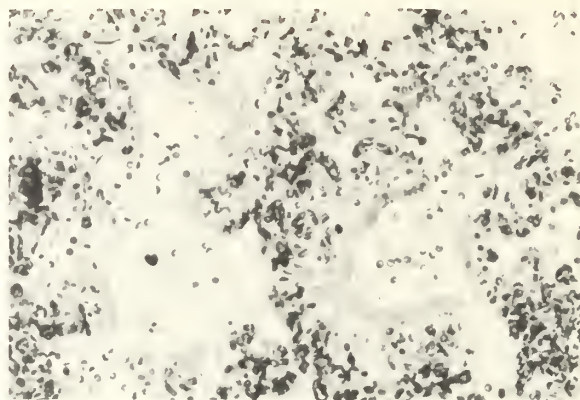


Figure 1. Hyaline membrane formation and intra-alveolar hemorrhage are combined in this representative section of lung. Magnification 200X.

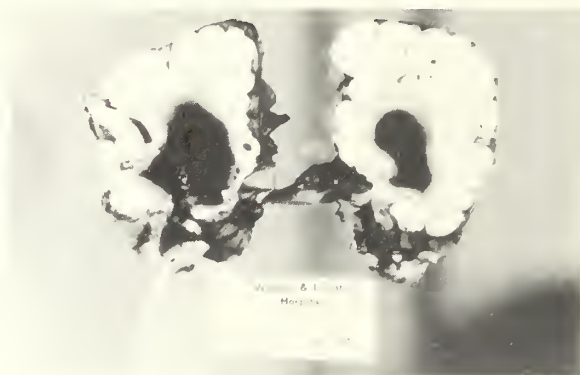


Figure 2. Coronal section of the brain showing bilateral intraventricular hemorrhage and foci of necrosis and hemorrhage in the cerebral white matter.

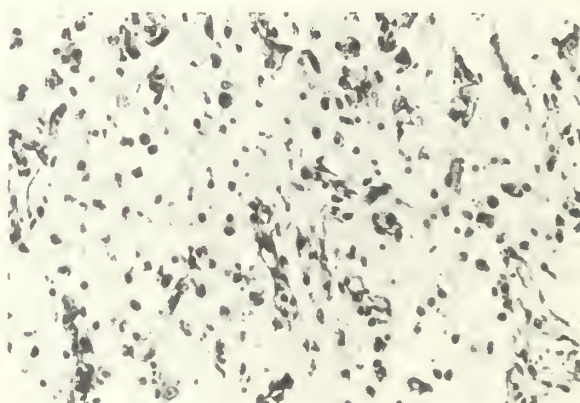


Figure 3. Gliosis and vascular proliferation in an area of anoxic/hypoglycemic damage in the brain. Magnification 400X.

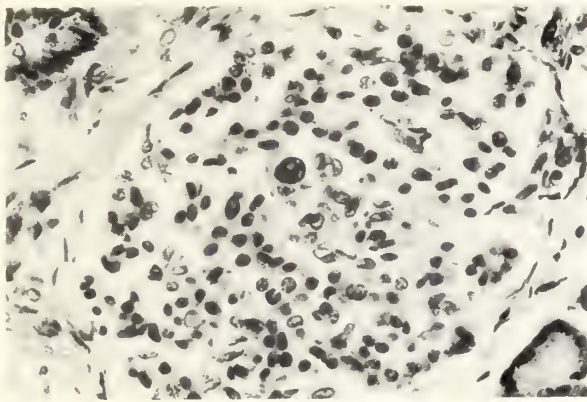


Figure 4. Pancreatic islet with centrally placed large bizarre beta cell. Islets throughout the pancreas were numerous and frequently enlarged. Magnification 400X.

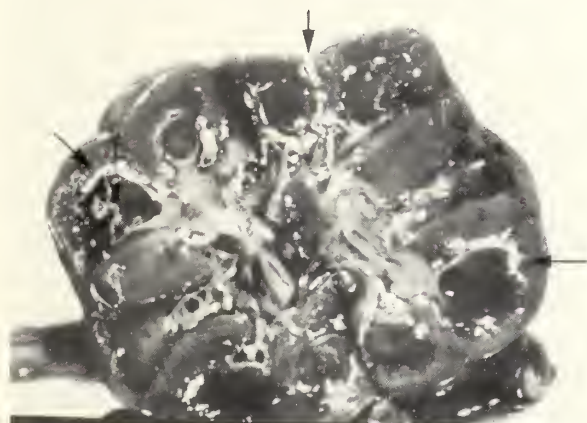


Figure 5. Section through kidney shows calcified deposits in tributaries of the renal veins (arrows).

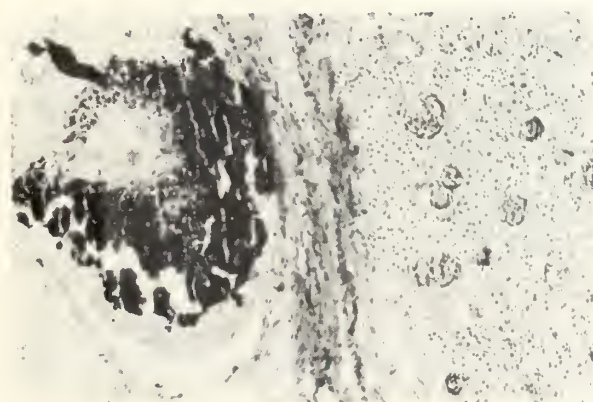


Figure 6. To the left is a renal vein filled with calcified and organizing thrombus. Note the intact renal parenchyma to the right. Magnification 100X.

fetuses of diabetic mothers² and also produces the hydramnios common in maternal diabetes.

We have no direct evidence that the mother had diabetes, but a glucose tolerance test, perhaps with stress, might prove otherwise. Further studies of the mother are needed. Lacking evidence for maternal diabetes, we feel that this is a case of idiopathic hyperinsulinism of the neonate. The syndrome of the infant giant¹ and infants of diabetic mothers are differentiated by the disparate features already noted, including the lack of maternal hyperglycemia or glycosuria. Intractable postnatal hypoglycemia in this infant is a significant feature suggesting the diagnosis of infant giant.

Final Pathologic Diagnosis:

1. Idiopathic neonatal hyperinsulinism, possibly the Infant Giant Syndrome.
2. Pancreatic islet hyperplasia and bizarre beta cells.
3. Brain: Intraventricular hemorrhage.
4. Lungs: Residual hyaline membrane disease with terminal pulmonary hemorrhage.
5. Renal vein thrombosis with calcification.

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Appointment Scheduling: Compliance with Scheduling Compared to Interval Between Appointments

There Is Evidence Of Informal Participation By The Family In Determining The Interval

By John S. O'Shea, MD
Dorothy E. Sears

The provision of health care involves basically encounters between providers and patients. Although primary care is not burdened by a somewhat immobile apparatus such as is typical of much secondary and tertiary care, patient habits¹⁻⁶ and medical education⁷⁻¹³ have dictated that much of the primary pediatric and adolescent care in North America be provided within academic health facilities to patients and parents often traveling great distances from their homes or places of employment.

Although some authors doubt the value of continuity of care,^{14,15} most are impressed with its importance.¹⁶⁻¹⁸ It is not only important that all patients be treated with dignity and they be encouraged to participate in diagnosis and disposition,¹⁹⁻²³ it is also essential that the health care providers advise as far as possible regarding optimal number of visits and the interval between visits to various

facilities. The need to obtain preventive health care while realizing its inherent inconvenience to patients and their families must be emphasized.²⁴⁻²⁸ Although some pediatric and adolescent primary care authorities have observed that the length of the interval between appointments has no important effect on whether return appointments are kept,²⁹⁻³¹ others believe that short intervals between appointments will result in the greatest likelihood that patients will return (or be returned) for needed follow-up. Others have stressed, however, that very short intervals usually are inappropriate, because they may indicate to the family that those providing the care have little confidence in the family's ability to care for the patient, that the patient's home situation is inadequate and thus hospitalization is required, or both. The following is a report of an attempt to resolve this controversy by determining appropriate intervals between appointments to a pediatric and adolescent primary care facility for patients presenting with various conditions.

Procedure

Between November 1976, and January 1977, 480 patients under age 19 were randomly selected for study. Each patient was

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evaluated in the Rhode Island Hospital Pediatric or Adolescent Primary Care Unit on a weekday between 8 AM and 4:30 PM, by a medical student, pediatric nurse practitioner, pediatric resident, or attending pediatrician. The patient was then given a specific appointment for a return to the unit after an interval judged appropriate by an attending pediatrician. This varied from 1 to 92 days. The patient's age, the purpose of the visit, the chief health provider at the initial visit, and the month in which the initial visit occurred were then correlated with the interval between the initial visit and the return appointment and whether the return appointment was kept. Without knowledge of the compliance with the return appointment, the primary purpose of the initial visit was classified as (1) evaluation of an acute illness, (2) continuing care of a chronic disorder, (3) follow-up of an acute illness, or (4) "well" patient care. Compliance with the return appointment was subsequently classified as (1) kept appointment as scheduled, (2) failed to keep appointment or returned more than five days late, (3) cancelled appointment, (4) returned early, or (5) returned from one to five days late.

The Pediatric and Adolescent Primary Care Unit is the appointment and non-

appointment general pediatric and adolescent ambulatory facility of Rhode Island Hospital, providing continuous as well as episodic care. When it is open it replaces the emergency department of the hospital for all but gravely ill children and adolescents. The hospital is also the center of the pediatric residency program of Brown University, and the unit is the university's main ambulatory pediatric and adolescent facility.

Children and adolescents are usually evaluated initially by a pediatric resident, medical student, or nurse practitioner. Consultation within the unit is provided by attending pediatricians, a child psychiatrist, psychologists, social workers, an education consultant, and pharmacists. Patients can be referred within the hospital for consultation in the various aspects of pediatrics such as abnormal child development, allergy, cardiology, cystic fibrosis, dermatology, diabetes, endocrinology, hematology, lead poisoning, metabolism, nephrology, neurology oncology, orthopedics, radiology, and surgery. Many of these subspecialties meet regularly within the same area housing the unit.

Results

Table 1 indicates that compliance with

TABLE 1.
FACTORS UNRELATED TO COMPLIANCE WITH RETURN APPOINTMENTS

a. Patients' ages							
	— 1 year	1-2	2-5	6-9	10-13	+14	Total
Kept	35 (40.7%)	24 (48.0%)	36 (41.4%)	28 (44.4%)	39 (44.8%)	52 (48.6%)	214 (44.6%)
Did not keep	36 (41.9%)	19 (38.0%)	39 (44.8%)	29 (46.0%)	32 (36.8%)	42 (39.3%)	197 (41.0%)
Cancelled	2 (2.3%)	1 (2.0%)	2 (2.3%)	2 (3.2%)	3 (3.4%)	3 (2.8%)	13 (2.7%)
Returned Early . .	10 (11.6%)	3 (6.0%)	8 (9.2%)	2 (3.2%)	8 (9.2%)	8 (7.5%)	39 (8.1%)
Returned Late . . .	3 (3.5%)	3 (6.0%)	2 (2.3%)	2 (3.2%)	5 (5.7%)	2 (1.9%)	17 (3.5%)
Total	86	50	87	63	87	107	480 (100%)

keeping return appointments was not significantly related to the patients' ages ($p>0.50$), the primary purpose of the initial visits ($p>0.50$), the training of the health providers mainly responsible for the patients at these visits ($p>0.50$), or the months when these initial visits occurred ($p>0.15$). A similar lack of correlation ($p>0.50$) in all cases) was noted when the data for compliance behaviors (1), (4), and (5) — viz. kept appointment as scheduled, returned early, and returned between one and five days late, respectively — were added together, with the assumption that these three types of behavior are similar.

Table 2 indicates, on the other hand, a significant correlation (overall $p<0.02$) between keeping return appointments and the interval between initial visits and these appointments. Intervals of between one and eight days were more apt to result in return appointments being kept than intervals of between nine and sixteen days ($p<0.05$), which in turn were more successful than intervals of between seventeen and thirty-two days ($p\sim 0.10$). Intervals of between one and four days did not, however, produce significantly better compliance than did those between five and eight days ($p>0.50$). Nor were intervals of seventeen to thirty-two days more effective than those of thirty-three or more days ($p>0.50$).

Furthermore, patients given appointments at shorter intervals tended to return late,

while those asked to return at longer intervals returned early. In fact, although the average interval between initial visits and return appointments was 13 days, the average interval between initial visits and the actual return visits was 11 days.

The annual average rate of failure to keep appointments to the unit is 17 per cent, although in the period of this study it was 41 per cent. Within the period of the study, several school vacations occurred, periods traditionally associated with poor return appointment compliance for the unit. The results appear to have general applicability, however, because (1) they all were consistent throughout the various months of the study and (2) the rate of failure to keep return appointments fell to 15 per cent during the last month of the study (March, 1977) when no vacations occurred.

Chi-squared testing was used throughout to determine statistical significance.

Comment

To help assure that primary health care actually reaches children and adolescents, consideration must be given to the interval between visits. If a fairly long interval (in this study over 17 days) appears appropriate, special emphasis must be placed on convincing the patient and his or her family of the importance of returning. In spite of previous

b. Primary purposes of the initial visits

	Acute Illness	Chronic Disorder	Follow up of Acute Illness	"Well" Care	Total
Kept	99 (41.1%)	71 (47.0%)	20 (50.0%)	24 (50.0%)	214 (44.6%)
Did not keep	101 (41.9%)	63 (41.7%)	16 (40.0%)	17 (35.4%)	197 (41.0%)
Cancelled	7 (2.9%)	3 (2.0%)	1 (2.5%)	2 (4.2%)	13 (2.7%)
Returned Early	24 (10.0%)	9 (6.0%)	2 (5.0%)	4 (8.3%)	39 (8.1%)
Returned late	10 (4.1%)	5 (3.3%)	1 (2.5%)	1 (2.1%)	17 (3.5%)
Total	241	151	40	48	480 (100%)

c. Training of main health care providers at initial visits

	Medical Student	Nurse Practitioner	Pediatric Resident	Pediatric Attending	Total
Kept	33 (38.8%)	18 (40.9%)	128 (45.7%)	35 (49.3%)	214 (44.6%)
Did not keep	36 (42.4%)	20 (45.5%)	117 (41.8%)	24 (33.8%)	197 (41.0%)
Cancelled	2 (2.4%)	1 (2.3%)	8 (2.9%)	2 (2.8%)	13 (2.7%)
Returned early	9 (10.6%)	3 (6.8%)	20 (7.1%)	7 (9.9%)	39 (8.1%)
Returned late	5 (5.9%)	2 (4.5%)	7 (2.5%)	3 (4.2%)	17 (3.5%)
Total	85	44	280	71	480 (100%)

d. Months of initial visit

	November 1976	December 1976	January 1977	Total
Kept	75 (42.6%)	78 (42.6%)	61 (50.4%)	214 (44.6%)
Did not keep	70 (39.8%)	83 (45.4%)	44 (36.4%)	197 (41.0%)
Cancelled	5 (2.8%)	5 (2.7%)	3 (2.5%)	13 (2.7%)
Returned early	19 (10.8%)	8 (4.4%)	12 (9.9%)	39 (8.1%)
Returned late	7 (4.0%)	9 (4.9%)	1 (0.8%)	17 (3.5%)
Total	176	183	121	480 (100%)

evidence that older children³² and patients with urgent problems^{29,33} are more likely to keep return appointments than younger children or patients scheduled for routine visits, similar correlations were not found in this study, where the interval was the only factor noted to be significant. Although telephone and appointment reminders have been somewhat successful,^{31,34-37} more involvement of the patient and family in the decision con-

cerning the length of time between appointments (and possibly even more in the diagnostic and therapeutic processes themselves) is perhaps also important.

Return visits actually were an average of two days earlier than scheduled, indicating the now usually informal participation of the patient and family in determining the interval between visits. Furthermore, appointments scheduled for one to four days after the

TABLE 2.
INTERVALS BETWEEN INITIAL VISITS AND RETURN APPOINTMENTS
COMPARED TO COMPLIANCE WITH RETURN APPOINTMENTS

	1-4 days	5-8	9-16	17-32	33+	Total
Kept	35 (57.4%)	58 (51.8%)	64 (41.0%)	32 (34.8%)	25 (42.4%)	214 (44.6%)
Did not keep	19 (31.1%)	42 (37.5%)	68 (43.6%)	42 (45.7%)	26 (44.1%)	197 (41.0%)
Cancelled	3 (4.9%)	3 (2.7%)	3 (1.9%)	3 (3.3%)	1 (1.7%)	13 (2.7%)
Returned early	2 (3.3%)	3 (2.7%)	14 (9.0%)	14 (15.2%)	6 (10.2%)	39 (8.1%)
Returned late	2 (3.3%)	6 (5.4%)	7 (4.5%)	1 (1.1%)	1 (1.7%)	17 (3.5%)
Total	61	112	156	92	59	480 (100%)

initial visit were no more apt to be kept than those between five and eight days. This may indicate that a family asked to return within a few days is not impressed that there is especial concern, or that they are displeased with the apparent lack of confidence in their ability to observe and treat the patient.

Summary

Compliance with return appointment scheduling is essential to the delivery of health care. Within the pediatric and adolescent primary care facility of a university affiliated hospital, the keeping of appointments was significantly better when the interval between the initial visits and the scheduled returns was less than 17 days, but did not appear to be related to (1) the patients' ages, (2) the primary purpose of the visits, (3) the training of the providers or (4) the calendar months of the initial visits. Although they were usually not asked to assist in determining the intervals, the patients and their families evidenced some participation by returning an average of two days earlier than scheduled and frequently by keeping appointments scheduled within four days of their initial visits.

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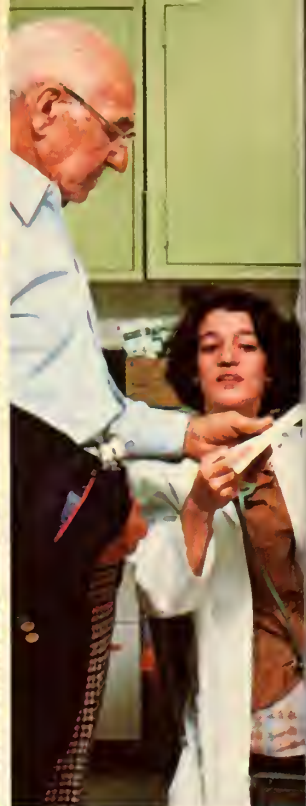
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*The safety and effectiveness of Motrin have not been established in patients with Functional Class IV rheumatoid arthritis (incapacitated, largely or wholly bedridden, or confined to wheelchair; little or no self-care).



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Incidence: Unmarked 1% to 3%, *3% to 9%.

Incidence less than 1 in 100

Gastrointestinal: Upper GI ulcer with bleeding and/or perforation, hemorrhage, melena. **Central Nervous System:** Depression, insomnia. **Dermatologic:** Vesiculobullous eruptions, urticaria, erythema multiforme. **Cardiovascular:** Congestive heart failure in patients with marginal cardiac function, elevated blood pressure. **Special Senses:** Amblyopia (see PRECAUTIONS). **Hematologic:** Leukopenia, decreased hemoglobin and hematocrit.

Causal relationship unknown

Gastrointestinal: Hepatitis, jaundice, abnormal liver function. **Central Nervous System:** Paresthesias, hallucinations, dream abnormalities. **Dermatologic:** Alopecia, Stevens-Johnson syndrome. **Special Senses:** Conjunctivitis, diplopia, optic neuritis. **Hematologic:** Hemolytic anemia, thrombocytopenia, granulocytopenia, bleeding episodes. **Allergic:** Fever, serum sickness, lupus erythematosus syndrome. **Endocrine:** Gynecomastia, hypoglycemia. **Cardiovascular:** Arrhythmias. **Renal:** Decreased creatinine clearance, polyuria, azotemia.

Overdosage: In cases of acute overdosage, the stomach should be emptied. The drug is acidic and excreted in the urine, so alkaline diuresis may be beneficial.

Dosage and Administration: Suggested dosage is 300 or 400 mg t.i.d. or q.i.d. Do not exceed 2400 mg per day.

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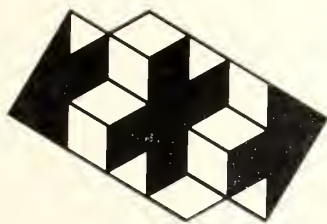
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Report of the House of Delegates

Minutes: Meeting October 18, 1978

A meeting of the House of Delegates of the Rhode Island Medical Society was held on Wednesday, October 18, 1978 in the Rhode Island Medical Society auditorium.

In the absence of the Speaker, Leonard S. Staudinger, M.D., and the Vice Speaker, Charles P. Shoemaker, Jr., M.D., who were attending a medical conference, the Council, at its September 11, 1978 meeting, approved the appointment of Dr. Herbert F. Hager as Speaker Pro Tempore for the October 18 meeting of the House.

The meeting was called to order by Speaker Pro Tempore, Herbert F. Hager, M.D., at 8:05 p.m.

Officers of the Rhode Island Medical Society present were: Joseph E. Caruolo, M.D., Peter L. Mathieu, Jr., M.D., Charles L. Hill, M.D., Melvin D. Hoffman, M.D., and Melvyn M. Gelch, M.D.

Immediate Past President present was: Frank W. Sullivan, M.D.

Delegates in attendance were:

Bristol County: Leonard J. Parker, M.D.

Kent County: Joseph R. Peltier, M.D., and William A. VanHaaren, M.D.

Newport: Peter D. T. Clarisse, M.D. (substituting for Charles P. Shoemaker, Jr., M.D.)

Pawtucket District: Royal C. Hudson, Jr., M.D. (substituting for David R. Hallman, M.D.), Richard E. Kuhn, M.D.

Providence Medical Association: Thomas G. Breslin, M.D., Alphonse R. Cardi, M.D., John J. Coughlin, M.D., Melvyn M. Gelch, M.D., Herbert F. Hager, M.D., Charles L. Hill, M.D., Melvin D. Hoffman, M.D., Joseph P. Lombardozzi, M.D., William J. MacDonald, M.D., Betty B. Mathieu, M.D., Richard T. McDermott, M.D., Anthony F. Merlino, M.D., Daniel Moore, Jr., M.D., P. Joseph Pesare, M.D., Wilma S. F. Rosen, M.D., Guy A. Settipane, M.D., Rajnikant K. Shah, M.D., Louis V. Sorrentino, M.D., Gabriel A. Najera, M.D., (substituting for Hugo Taussig, M.D.),

Richard L. Testa, M.D., Joseph R. Tucci, M.D., and James F. Valicenti, M.D.

Washington County: Erwin Siegmund, M.D.

Woonsocket District: Orazio Basile, M.D., and Alban J. LeBlanc, M.D.

Delegates absent were:

Kent County: Peter B. Baute, M.D., James R. Hagerty, M.D., Richard W. Perry, M.D., H. Gerald Rock, M.D., William F. Varr, Jr., M.D.

Newport County: George P. Lewis, Jr., M.D., Charles P. Shoemaker, Jr., M.D., (excused), Richard T. Zuerner, M.D.

Pawtucket District: David R. Hallmann, M.D., (excused), Robert S. Burroughs, M.D., Juan N. Medina, M.D., and Nathan Sonkin, M.D.

Providence Medical Association: Charles J. Ashworth, Jr., M.D., (excused), Erminio Cardi, M.D., George N. Cooper, Jr., M.D., Frank G. DeLuca, M.D. (excused), John E. Farley, Jr., M.D., Donald P. Fitzpatrick, M.D., (excused), Serafino Garella, M.D. (excused), Harry M. Iannotti, M.D., Jerry M. Kheradi, M.D., William S. Klutz, M.D., (excused), H. Raymond McKendall, M.D., (excused), Robert W. Riemer, M.D., (excused), Henry J. Robidoux, M.D., Robert G. Rosenberg, M.D. (excused), Richard P. Sexton, M.D., William Q. Sturmer, M.D., Hugo Taussig, M.D. (excused).

Washington County: Louis A. Morrone, M.D., Douglas Rayner, M.D., and Agu Suvari, M.D.

Woonsocket District: Constantine Pagonis, M.D., and Leonard S. Staudinger, M.D. (excused).

Specialty Society Representatives in attendance were:

Rhode Island Society of Internal Medicine: Guy A. Settipane, M.D.

Rhode Island Section, American College of Obstetricians and Gynecologists: John J. Coughlin, M.D. (substituting for Marshall A. Taylor M.D.)

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Don B. Singer, M.D.

*Rhode Island Association of Emergency
Room Physicians:* Jorge E. Alonso, M.D.

Rhode Island Society of Allergy: Guy A
Settipane, M.D.

Rhode Island Otolaryngological Society:
Charles L. Hill, M.D.

Rhode Island Society of Neurosurgery:
Walter C. Cotter, M.D.

Specialty Society Representatives absent
were:

*Rhode Island Section, American College
of Obstetricians and Gynecologists:*
Marshall A. Taylor, M.D. (excused)

Rhode Island Orthopedic Society: A.
Louis Mariorenzi, M.D.

*Rhode Island Chapter, American
Academy of Pediatrics:* John A. Farley, Jr.,
M.D.

*Rhode Island District Branch, American
Psychiatric Association:* Eufrocino N.
Beltran, M.D. (excused)

Rhode Island Society of Anesthesiologists:
William F. Varr, M.D.

Rhode Island Dermatological Society:
Bencel Schiff, M.D.

Rhode Island Ophthalmological Society:
Arthur I. Geltzer, M.D.

Providence Surgical Society: George T.
Van Petten, M.D.

*Rhode Island Chapter, American College
of Surgeons:* Paul J. M. Healey, M.D.
(excused)

Rhode Island Society of Nuclear Medicine:
Ben C. Claunch, M.D.

Commissioners present were: Kenneth
Liffmann, M.D., Daniel P. Moore, Jr., M.D.
and Anthony F. Merlino, M.D.

Commissioners absent were: Donald F.
Fitzpatrick, M.D. (excused), and George N.
Cooper, Jr., M.D. (excused).

Members Ex Officio present were:
Scebert J. Goldowsky, M.D., Editor, Rhode
Island Medical Journal, John J. Cunning-
ham, M.D., Delegate, American Medical
Association, Herbert F. Hager, M.D., Alter-
nate Delegate, American Medical Associa-
tion, and William J. MacDonald, M.D.,
Board Chairman, Blue Shield.

Members Ex Officio absent were: Joseph
E. Cannon, M.D., Director, Rhode Island

Department of Health.

Others present were: James J. McGovern
and James R. Clarkin.

Approval of the Minutes of Previous Meeting

The Speaker Pro Tempore noted that the
minutes of the March 15, 1978 meeting of the
House had been printed and distributed by
the Secretary.

Action: A motion was made, seconded and
voted that the minutes of the March 15, 1978
meeting of the House of Delegates be
approved and placed on record.

Report of the Secretary Melvin D. Hoffman, M.D.

The Speaker Pro Tempore noted that the
Report of the Secretary was included in the
handbook and called for a discussion of any
items appearing therein.

4) The President noted that the Annual
Meeting of the Society will be held on
Wednesday, May 16, 1979 at the new
Biltmore Hotel and that the Specialty
Societies are, again, being invited to partici-
pate.

6) Dr. Frank W. Sullivan advised the
House that the Society compiled an excellent
record during the last session of the General
Assembly and emphasized the effectiveness
of the legislative counsel, Atty. Charles E.
Butterfield and staff in producing this result.

26) Dr. Joseph E. Caruolo urged
members to participate in the Voluntary 2nd
Opinion Program to insure that the evalua-
tions rendered would be by physicians of
high caliber.

Action: A motion was made, seconded
and voted that the Report of the Secretary be
approved and placed on record.

Report of the Treasurer Melvyn M. Gelch, M.D.

The Secretary reported that the Report of
the Treasurer was included in the handbook.

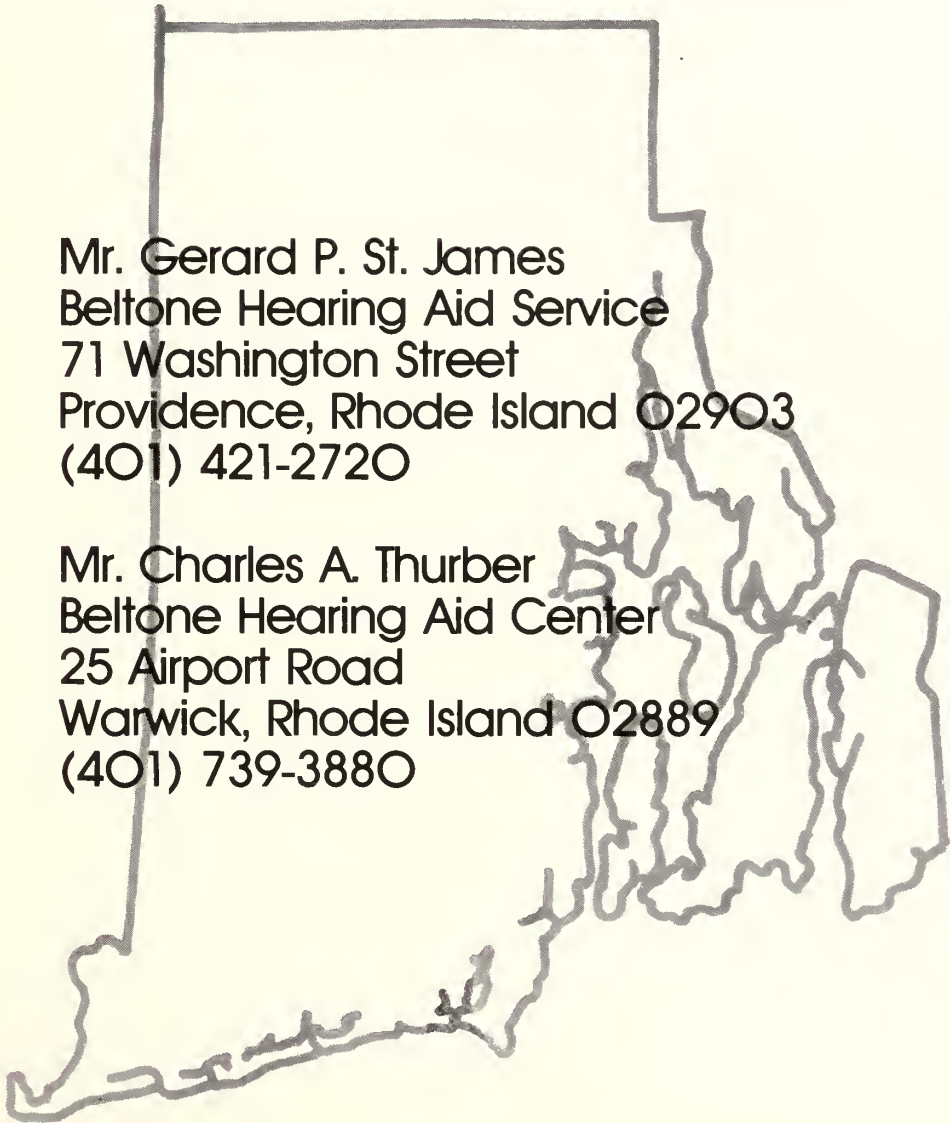
Dr. Gelch, Treasurer, informed the House
that the management of the "pooled funds"
had been transferred from the Industrial
National Bank to the Providence Group.
Subsequently, because of continued difficulty
in obtaining necessary reports from the
Industrial National Bank the Investment

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Fund was transferred to the Old Stone Bank. There is already evidence that these funds under management of the Providence Group, will produce a higher yield to the Society's benefit.

Action: A motion was made, seconded and voted:

- a) supporting the Council's action in placing the management of the Investment Funds with the Providence Group.
- b) approving the management of the Society's cash flow revenues by the Providence Group, with the stipulation that accessibility to such revenues be guaranteed.

In response to a question as to whether or not the Providence Group was bonded, the House was informed that they were not. It was explained that the Providence Group did not have actual possession of the Society's monies, certificates, bonds, etc. These remained in the bank. The Providence Group, by agreement with the Treasurer, directed the utilization of these securities and monies. Further, the matter of bonding had been referred by the Society to legal counsel who informed us that such was not necessary since they do not actually possess the paper or monies. The risk involved is the same as that of any individual or organization dealing in stocks, bonds and certificates. The risk, in this case, however, is minimized because of the professional abilities of the Providence Group in this field.

Action: A motion was made, seconded and voted that the Report of the Treasurer, as submitted, be approved and place on file subject to audit.

Recommendations from the Council Melvin D. Hoffman, M.D.

1) Benevolence Fund

The House elected Dr. Melvyn M. Gelch for a three year term (1979-1981) as a trustee of the Benevolence Fund of the Society.

2) Budget and Dues

The House approved the proposed budget for 1978 and voted that the annual dues remain at \$175 for active members in practice more than one year and \$87.50 for those in their first year of practice.

3) AMA Delegate and Alternate Delegate

The House elected Dr. John J. Cunningham of Pawtucket, as Delegate and Dr. Herbert F. Hager, of Providence, as Alternate Delegate to the AMA House of Delegates for the term beginning January 1, 1979 through December 31, 1980.

4) Legislative Counsel

The House voted to retain Atty. Charles Butterfield, Jr., as the Society legislative counsel for the 1979 session of the General Assembly.

5) Status of the Library

The House voted to retain the Library in its present location, to reimburse the Librarian and her Assistant for any work-related courses they may take and the employment of a temporary person at the appropriate time to assist in cleaning out the stacks.

6) 13th Post-Graduate Conference on the Medical Aspects of Sports

The House approved the Council's action in granting a \$250 donation to support the 13th Post-Graduate Conference on the Medical Aspects of Sports.

7) Rhode Island Medical Assistants

The House approved the action of the Council in granting a \$100 donation to the Rhode Island Medical Assistants towards the cost of their participation at the convention of their national organization held in Boston.

8) Staff Salary Increases

The House approved the salary increases based on the cost of living plus one percent granted by the Council to staff employees effective July 1, 1978. This increase terminates the three year policy adopted by the Council. The Council will review this policy prior to July 1, 1979.

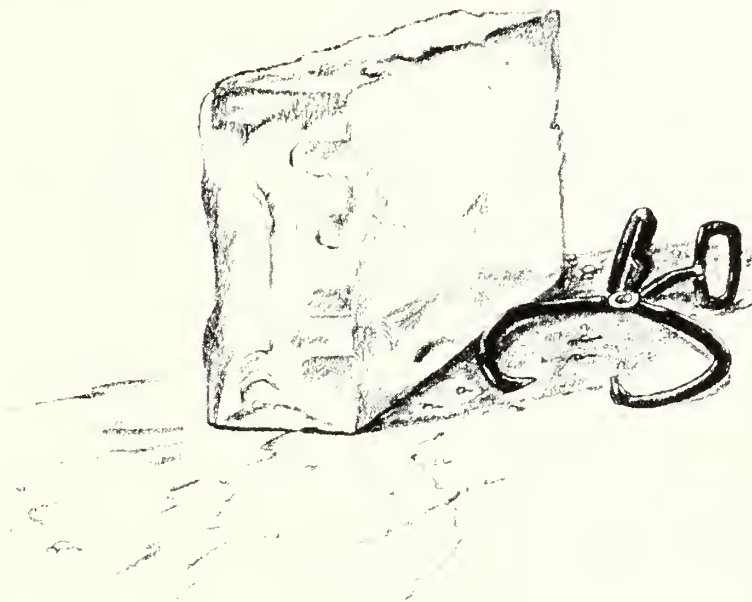
9) Staff Employee — Assignment of Additional Duties and Salary Increase

The House approved the Council's recommendation to upgrade on a trial basis, the position of a present employee (Karen Challberg) by assigning additional duties (contact with the media, public organizations, district societies, membership, and other health providers) and increasing said employee's salary in a manner proportionate to the duties assigned. (\$3,000)

Resolutions

Dr. Joseph E. Caruolo introduced a

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resolution pertaining to membership attendance at House meetings.

The House adopted the resolution, the Resolved Portion of which read: "Be it resolved that the membership be urged to attend House meetings as non-voting observers."

Dr. Charles L. Hill introduced a resolution pertaining to the filing of physician data (date of birth, graduate education, area of specialization and training) in the Executive Office, and that, in addition, it be recommended that all physicians make available, on request, prices for their services.

It was agreed that this information has always been available at the Executive Office and furnished upon patient request and that physicians have always been urged to discuss their fees with patients. Dr. Hill advised it was his intention to present this resolution if approved by the House to the media:

Action: A motion was made, seconded and voted that this resolution be tabled.

Report of the AMA Delegates

Drs. John J. Cunningham and Herbert F. Hager, Delegate and Alternate Delegate respectively to the AMA House of Delegates reported briefly on the highlights of the AMA House of Delegates meeting June 1722, 1978 as summarized in the House handbook.

Committee Reports

The Speaker noted that the committee reports contained in the House handbook were for informational purposes only and did not require any special House action.

Action: A motion was made, seconded and voted that the committee reports on the *Mediation (as corrected), Medical Aspects of Sports, Standards and Credentials, Scientific Work and Annual Meeting Committees be received and placed on file.

*Report of the Mediation Committee: Second paragraph, second line: "During this period, etc. ", should read, "During the period January 1, 1978 through September 18, 1978 the Committee has received 28 letters of complaints, etc."

Miscellaneous Business

Dr. Joseph E. Caruolo reported that two newly formed Specialty Societies have re-

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 - b.) DISABILITY
 - c.) DEATH
 - d.) DEPRESSION
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quested representation in the House of Delegates, namely, the Rhode Island Thoracic and Cardiovascular Physicians and the Rhode Island Pulmonary Physicians.

There are presently 18 Specialty Societies represented in the House of Delegates. The House authorized the president to appoint and Ad Hoc Committee to review the relationship between the Medical Society and Specialty Societies, establish criteria for the admission of new Specialty Societies and submit a report on the matter to the Council.

Dr. Caruolo advised that the names of anyone wishing to serve on the Ad Hoc Committee should be submitted to the Executive Office within the next week.

There being no further business the meeting was adjourned at 10:45 p.m.

Respectfully submitted,

Melvin D. Hoffman, M.D.
Secretary

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CONTRAINDICATIONS: Advanced arteriosclerosis, hyperthyroidism, known hypersensitivity, or idiosyncrasy to the sympathomimetic amines; glaucoma. Agitated states. Patients with a history of drug abuse. During or within 14 days following the administration of monoamine oxidase inhibitors, (hypertensive crises may result).

WARNINGS: If tolerance develops, the recommended dose should not be exceeded in an attempt to increase the effect; rather, the drug should be discontinued. Tenuate may impair the ability of the patient to engage in potentially hazardous activities such as operating machinery or driving a motor vehicle, the patient should therefore be cautioned accordingly. **Drug Dependence:** Tenuate has some chemical and pharmacologic similarities to the amphetamines and other related stimulant drugs that have been extensively abused. There have been reports of subjects becoming psychologically dependent on diethylpropion. The possibility of abuse should be kept in mind when evaluating the desirability of including a drug as part of a weight reduction program. Abuse of amphetamines and related drugs may be associated with varying degrees of psychologic dependence and social dysfunction which, in the case of certain drugs, may be severe. There are reports of patients who have increased the dosage to many times that recommended. Abrupt cessation following prolonged high dosage administration results in extreme fatigue and mental depression; changes are also noted on the sleep EEG. Manifestations of chronic intoxication with anorectic drugs include severe dermatoses, marked insomnia, irritability, hyperactivity, and personality changes. The most severe manifestation of chronic intoxications is psychosis, often clinically indistinguishable from schizophrenia. **Use in Pregnancy:** Although rat and human reproductive studies have not indicated adverse effects, the use of Tenuate by women who are pregnant or may become pregnant requires that the potential benefits be weighed against the potential risks. **Use in Children:** Tenuate is not recommended for use in children under 12 years of age.

PRECAUTIONS: Caution is to be exercised in prescribing Tenuate for patients with hypertension or with symptomatic cardiovascular disease, including arrhythmias. Tenuate should not be administered to patients with severe hypertension. Insulin requirements in diabetes mellitus may be altered in association with the use of Tenuate and the concomitant dietary regimen. Tenuate may decrease the hypotensive effect of guanethidine. The least amount feasible should be prescribed or dispensed at one time in order to minimize the possibility of overdose. Reports suggest that Tenuate may increase convulsions in some epileptics. Therefore, epileptics receiving Tenuate should be carefully monitored. Titration of dose or discontinuance of Tenuate may be necessary.

ADVERSE REACTIONS: **Cardiovascular:** Palpitation, tachycardia, elevation of blood pressure, precordial pain, arrhythmia. One published report described T-wave changes in the ECG of a healthy young male after ingestion of diethylpropion hydrochloride. **Central Nervous System:** Overstimulation, nervousness, restlessness, dizziness, jitteriness, insomnia, anxiety, euphoria, depression, dysphoria, tremor, dyskinesia, mydriasis, drowsiness, malaise, headache, rarely psychotic episodes at recommended doses. In a few epileptics an increase in convulsive episodes has been reported. **Gastrointestinal:** Dryness of the mouth, unpleasant taste, nausea, vomiting, abdominal discomfort, diarrhea, constipation, other gastrointestinal disturbances. **Allergic:** Urticaria, rash, ecchymosis, erythema. **Endocrine:** Impotence, changes in libido, gynecomastia, menstrual upset. **Hematopoietic System:** Bone marrow depression, agranulocytosis, leukopenia. **Miscellaneous:** A variety of miscellaneous adverse reactions has been reported by physicians. These include complaints such as dyspnea, hair loss, muscle pain, dysuria, increased sweating, and polyuria.

DOSE AND ADMINISTRATION: Tenuate (diethylpropion hydrochloride) One 25 mg. tablet three times daily, one hour before meals, and in mid-evening if desired to overcome night hunger. Tenuate Dospan (diethylpropion hydrochloride) controlled-release One 75 mg. tablet daily, swallowed whole, in mid-morning. Tenuate is not recommended for use in children under 12 years of age.

OVERDOSAGE: Manifestations of acute overdose include restlessness, tremor, hyperreflexia, rapid respiration, confusion, assaultiveness, hallucinations, panic states. Fatigue and depression usually follow the central stimulation. Cardiovascular effects include arrhythmias, hypertension or hypotension and circulatory collapse. Gastrointestinal symptoms include nausea, vomiting, diarrhea, and abdominal cramps. Overdose of pharmacologically similar compounds has resulted in fatal poisoning, usually terminating in convulsions and coma. Management of acute Tenuate intoxication is largely symptomatic and includes lavage and sedation with a barbiturate. Experience with hemodialysis or peritoneal dialysis is inadequate to permit recommendation in this regard. Intravenous phenolamine (Regitine®) has been suggested on pharmacologic grounds for possible acute, severe hypertension, if this complicates Tenuate overdose.

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References: 1. Citations available on request — Medical Research Department, MERRELL RESEARCH CENTER, MERRELL-NATIONAL LABORATORIES, Cincinnati, Ohio 45215. 2. Hoekenga, M.T., O'Dillon, R.H., and Leyland, H.M. A Comprehensive Review of Diethylpropion Hydrochloride. International Symposium on Central Mechanisms of Anorectic Drugs, Florence, Italy, Jan. 20-21, 1977.

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Editorial

Tip of the Iceberg

The full scope of the problem of alcoholism and alcoholic abuse has never been adequately explored. It is essential that a realistic appraisal of the pervasiveness and profound economic dimensions of this common disorder be made.

It has been stated by authorities that 30 to 50 per cent of all hospital admissions are alcohol related. Repeated admissions of the same patient are common. Those hospitals that are obtaining alcohol blood levels in all patients admitted for automobile accident injuries find that 50 per cent of such accidents are alcohol related. Coroners' reports indicate that alcohol is involved in many cases of homicide, suicide, and miscellaneous accidents. Some 90 per cent of all bed and chair burns and a high percentage of associated deaths are alcohol or drunkenness relative. It is widely recognized that alcohol is a factor in civil aviation accidents and in a wide variety of home and outdoor accidents, including motorcycle, snowmobile, skiing, and just plain falls. The police, legal, and medical professions are all much involved in alcohol related activities, and the property loss from alcohol related automobile collisions and house fires is incalculable.

A wide variety of medical illnesses is involved, such as gastritis, peptic ulcer, pancreatitis, bleeding esophageal varices, and cirrhosis of the liver, stated to be a major cause of death in the United States. While oropharyngeal and pulmonary carcinoma have a close relationship to smoking, there is no doubt that the incidence is great among alcohol abusers, both because most of them smoke heavily and also possibly because of an enhancement by alcohol. The same would apply to other tobacco related disorders,

such as cancer of the bladder, emphysema, myocardial infarction, pneumonia, and peripheral vascular disease.

The incidence of liver cancer in cirrhotic and pancreatic cancer in those with pancreatitis also appears to be increased. The increased incidence of heart disease, diabetes mellitus, brain deterioration, nutritional disorders, and polyneuritis is well recognized. Alcoholism among pregnant women is a considerable cause of mental retardation among their offspring. No one knows the number of alcoholic cripples and zombies vegetating in our custodial warehouses. The reader undoubtedly will think of disorders which we have failed to mention.

The economic and social costs are incalculable as measured in lost jobs and disruption of families. The problem presents many frustrating aspects. Moderate use of alcohol is almost universal, and is either totally or relatively harmless in most people. How to detect the 10 per cent of our population who have the potential for disaster? Alcoholic rehabilitation programs and support programs, such as AA, are increasing in numbers, but are barely scratching the surface. Research into the causes, cure, and control of alcoholism are underfunded considering the size of the problem. Perhaps a realistic estimate of the costs and a widespread educational program as to what is going on will help to accelerate further investigations and perhaps ultimately lead to a breakthrough in this human scourge.

Reference

- Ellis B: Director of alcoholism treatment center urges hospitals to open their doors. *Hospitals JAHA* 52: 117-121, 16 Nov 78.

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Editor's Mailbox

Needed Facility at Center General Hospital

To the Editor:

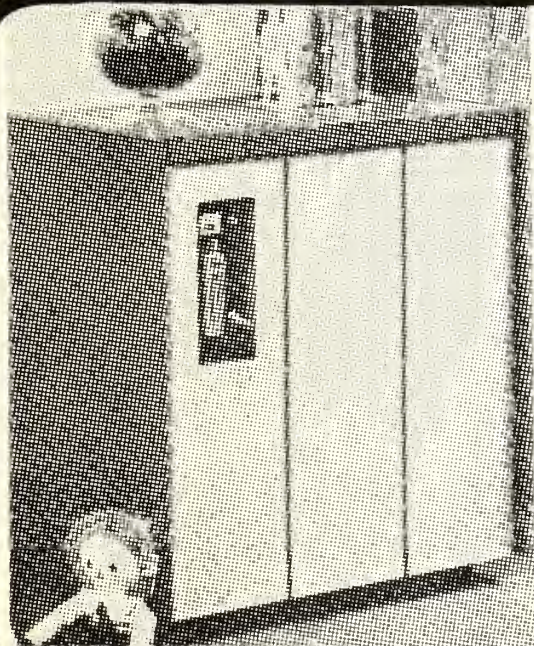
After reading your editorial "New Plans for the Center General Hospital" in the November, 1978 issue of the *Rhode Island Medical Journal*, I would like to thank you for your very favorable comments related to this much needed facility which will improve our health care delivery system.

We in the Department of Mental Health, Retardation and Hospitals feel that this new facility will benefit the citizens of the state of Rhode Island both as an in-patient service and a training facility for professional and technical personnel involved in the management of the elderly, the handicapped and the chronically ill. We look upon this building,

along with the totally renovated "H" Building, as a foundation for continued progress in providing quality rehabilitative care for Rhode Islanders.

Again, let me thank you on behalf of the Department, Mr. Thomas D. Romeo, Assistant Director for Rehabilitative Services and Doctor Johannes Virks, Chief of Medical Services, General Hospital, Rhode Island Medical Center.

Joseph J. Bevilacqua, PhD
Director
Rhode Island State Department of
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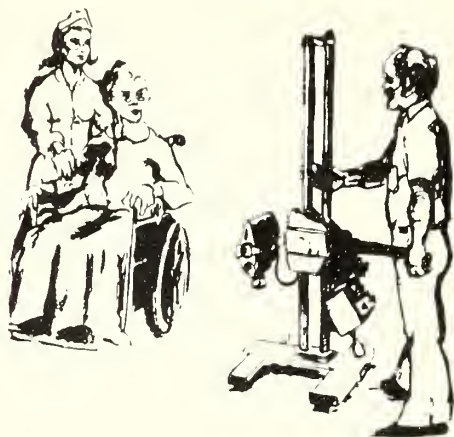
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Pediatric Medicine and Education
See Pages 47-54 and 65-66

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Usage in Pregnancy: Use of minor tranquilizers during first trimester should almost always be avoided because of increased risk of congenital malforma-

tions as suggested in several studies. Consider possibility of pregnancy when instituting therapy; advise patients to discuss therapy if they intend to or do become pregnant.

Precautions: In the elderly and debilitated, and in children over six, limit to smallest effective dosage (initially 10 mg or less per day) to preclude ataxia or oversedation, increasing gradually as needed and tolerated. Not recommended in children under six. Though generally not recommended, if combination therapy with other psychotropics seems indicated, carefully consider individual pharmacologic effects, particularly in use of potentiating drugs such as MAO inhibitors and phenothiazines. Observe usual precautions in presence of impaired renal or hepatic function. Paradoxical reactions (e.g., excitement, stimulation and acute rage) have been reported in psychiatric patients and hyperactive aggressive children. Employ usual precautions in treatment of anxiety states with evidence of impending depression; suicidal tendencies may be present and protective measures necessary. Variable effects on blood coagulation have been reported very rarely in patients receiving the drug and oral anticoagulants; causal relationship has not been established clinically.

Adverse Reactions: Drowsiness, ataxia and confusion may occur, especially in the elderly and debilitated. These are reversible in most instances by proper dosage adjustment, but are also occasionally observed at the lower dosage ranges. In a few instances syncope has been reported. Also encountered are isolated instances of skin eruptions, edema, minor menstrual irregularities, nausea and constipation, extrapyramidal symptoms, increased and decreased libido—all infrequent and generally controlled with dosage reduction; changes in EEG patterns (low-voltage fast activity) may appear during and after treatment; blood dyscrasias (including agranulocytosis), jaundice and hepatic dysfunction have been reported occasionally, making periodic blood counts and liver function tests advisable during protracted therapy.

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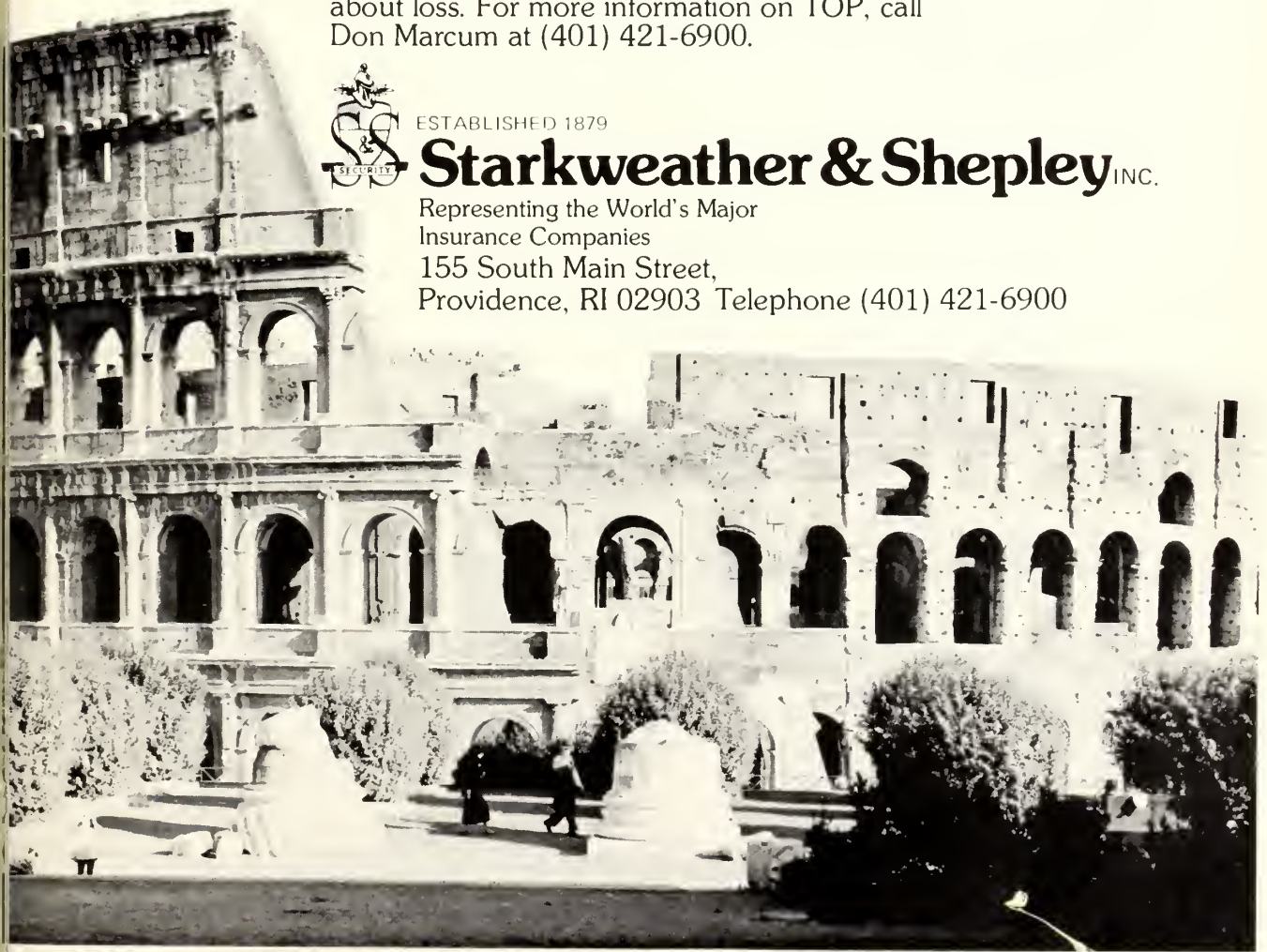
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Rhode Island Medical Society

NEWSLETTER

James R. Clarkin, *Editor*

February, 1979

CME Update

An editorial titled "Continuing Medical Education Requirements for Triennial Relicensure in Rhode Island" by Herbert F. Hager, MD appeared in the November 1976 issue of the *Rhode Island Medical Journal* presenting the background and specifications of the CME requirements for triennial relicensure beginning with the three-year period from January 1, 1977 to December 31, 1979. Dr. Hager emphasized, "*The first documentations of 60 CME hours is due with the November 1979 application, and those not in compliance with the law will after January 1, 1980 be without a license to practice medicine in the State of Rhode Island.*"

In response to this legislation members of the CME Committee of the Rhode Island Medical Society have been surveying institutions in Rhode Island making application for accreditation by the national Liaison Committee for Continuing Medical Education (LCCME), a joint body made up of the American Board of Medical Specialties, the American Hospital Association, the American Medical Association, the Association of Hospital Medical Education, the Association of American Medical Colleges, the Council of Medical Specialty Societies, and the Federation of State Medical Boards of the U.S., Inc. A CME program which becomes accredited by the LCCME has satisfied the highest national standards in the areas of administration, budget, teaching staff, curriculum, facilities, educational methods, and methods of evaluation, and is entitled to award Rhode Island credit units for relicensure as well as Category I credits for the Physicians Recognition Award.

To date the following institutions or organizations in Rhode Island have been surveyed by the Society's CME Committee and have met the specified criteria: Butler Hospital, Butler Hospital Staff Association, Kent County Memorial Hospital, Newport Hospital, Rhode Island Hospital, Rhode Island Medical Center General Hospital, Roger Williams General Hospital, St. Joseph's Hospital, Westerly Hospital, and Women & Infants Hospital. In addition applications for accreditation by the

following hospitals are now in process: Fogarty Memorial Hospital, South County Hospital, Woonsocket Hospital, and Dr. U. E. Zambarano Hospital. In the future it may be that LCCME approved programs will be available in every hospital in the state.

Physicians are urged to take advantage of local CME opportunities. These are being publicized by the individual institutions and also in the CME Calendar of Events, published twice yearly in the *Rhode Island Medical Journal*, which lists events for three to four months ahead in order that physicians may make their plans well in advance. Participants in CME activities should always obtain a certificate of attendance in the form of a signed card, slip, or letter, stating the sponsor, the title, the location and date of the program attended, and the type and number of credits awarded for attendance. This documentation should be held in safe keeping to be shown *only if requested* in support of any application for relicensure.

Further information on the upcoming relicensure procedure as it becomes available will be provided to you in this Newsletter. If you have any questions, call Miss Karen Challberg at the Rhode Island Medical Society Executive Office, 331-3207.

Save the Date

The Rhode Island Medical Society 1979 Annual Meeting will be held, Wednesday, May 16th at the newly renovated Biltmore Plaza Hotel in downtown Providence.

The afternoon agenda will offer programs by specialty societies, followed by the Rhode Island Medical Society Annual Meeting and the Chapin Oration. CME credits for participation.

The evening program will be social, dinner and dancing, no speakers.

Peripatetics

Allan M. Deutsch, MD, has been appointed Radiologist-in-Chief of the Miriam Hospital.

Former Surgeon-in-Chief, **Fiorindo A. Simeone, MD**, has been awarded the 1978 Distinguished Service Award of the Hospital Association of Rhode Island.

Arun K. Singh, MD, has been admitted to fellowship in the American College of Chest Physicians.

At its 25th Annual Meeting, the American Academy of Child Psychiatry honored **Joseph M. Zucker, MD**, as one of its founders along with the other founders.

The Rhode Island Neurosurgical Society has elected **Paul W. Bernstein, MD**, President; **David M. Barry, MD**, Vice-President; and **Paul T. Welch, MD**, Secretary-Treasurer.

The American College of Surgeons has named **Frank J. Schaberg, MD** a Fellow.

William Oh, MD, and **Leo Stern, MD**, were key participants in the last Annual Meeting of the American Academy of Pediatrics.

The Department of Neurosurgery at the University of Massachusetts was host to **Walter Cotter, MD**, who demonstrated his technique of transphenoidal surgery for pituitary tumors.

New Fellows of the American College of Cardiology include **Joseph R. Gaeta, MD**, and **Tumkur B.N. Kumar, MBBS**.

James P. Crowley, MD, has been appointed Brown University Medical School Liaison Officer by the Surgeon General of U.S. Navy.

At the recent meeting of the Rhode Island Gastroenterological Society new officers were elected as follows: **Vincent Vacca, MD**, President; **Richard R. McDermott**, Vice President; **Jerry Kheradi, MD**, Secretary-Treasurer.

Sterilization Provisions in Federally Assisted Programs

As of February 9, 1979, the Medicaid Program, Title XX Social Services Programs, and programs administered by the Public Health Service will be able to use federal funds for the performance of a sterilization of an individual (male or female) when the following requirements are met: (1) the individual is at least 21 years old at the time consent is given, (2) the individual is not mentally incompetent, (3) the individual has voluntarily given his or her informed consent in accordance with the procedures outlined in extensive detail in the regulations, and (4) at least 30 days but not more than 180 days have passed between the date of informed consent and the date of sterilization, except in the case of premature delivery or emergency abdominal surgery.

An individual may consent to be sterilized at the time of premature delivery or emergency surgery, if at least 72 hours have passed after he or she gave informed consent to the sterilization. In the case of the premature delivery, the informed consent must have been given at least 30 days before the expected date of delivery. Informational pamphlets and consent forms are available from the state agencies which administer these programs.

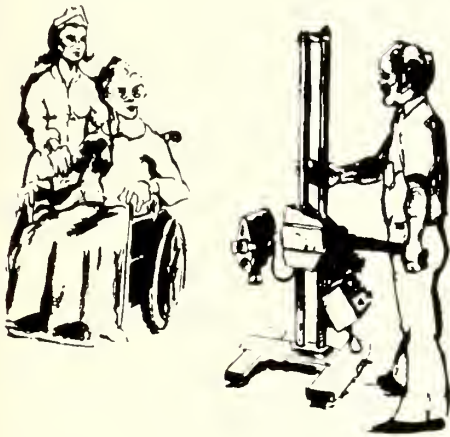
Measles Reporting

The Rhode Island Medical Society has been notified by the Department of Health that some early cases of measles in the state were not reported. *Title 23, Chapter 8, 10, 22, and 13 of the General Laws of 1956 of the Rhode Island Public Health Act mandates reporting of communicable diseases in order to protect the public health.* In view of the increasing numbers of cases of measles in Rhode Island, we strongly urge all physicians to comply with this regulation.

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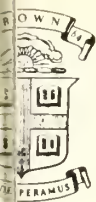
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A Message From the Dean

Citizens of Rhode Island Attending Foreign Medical Schools: A Five-Year Report

The January, 1974, issue of the *Rhode Island Medical Journal* carried a summary of the recommendations of a Brown University faculty committee which had previously convened to study some of the educational problems encountered by Rhode Island students enrolled in foreign medical schools.

The committee made certain recommendations, the essential features of which were: (1) that Brown University Program in Medicine assemble a year-long supervised clinical education program for medical students attending foreign medical schools which they could substitute for the year of clerkship education customarily taken abroad; (2) that admission to this Program be confined to Rhode Islanders; (3) that an admissions process, with uniform standards of screening and acceptance, be established; (4) that the academic year of this program consist of three three-month educational modules (medicine, surgery, reproductive and developmental medicine) to be embedded within the structure of the standard clerkship curriculum provided for the regular Brown medical students.

It is five years since these committee proposals were adopted and implemented by the University. What follows is a very brief summary of the record of this nondegree-conferring channel for medical education at Brown University. While this program consists essentially of two legally distinguishable programs (the Supervised Clinical Education Program and the Fifth Pathway Program), I have treated them as one group for purposes of tabulation below.

During these five years, 39 Rhode Islanders attending foreign medical schools

had been offered places in these special programs; 33 of these accepted the invitation and entered; six of the 33 are currently in attendance; and 20 of the remaining 27 (74 per cent) have successfully completed the program (see Table 1).

Table 1
Summary of Applicants

	Educational Programs			Total
	Sup. Clin. Ed.	5th Path.		
Total offered acceptance	33	6		39
Total beginning program	29	4		33
Total completing program	16	4		20
Total in current attendance	6	0		6

The 33 students came from almost every major community in the state. Of the 20 who have completed the program, seven had previously attended Providence College, six are graduates of the University of Rhode Island and the remaining are graduates from various other colleges situated in the north-eastern states. Three foreign medical schools (Bologna, Rome and the Autonomous University of Guadalajara) provided 16 of the 20 students who have finished the required courses at Brown.

The 20 individuals who have completed their training with us are now, or will shortly be, in residency training at various east coast hospitals. Nine of the 20 (45 per cent) remained in the state of Rhode Island for their graduate medical education, taking internships at the Rhode Island Hospital (7 students), The Miriam Hospital (1 student) and Memorial Hospital of Pawtucket (1 student). The remaining 11 students were



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accepted for training at Buffalo General Hospital (New York), Norwalk Hospital (Conn.), Hahnemann Hospital (Philadelphia, Penn.), Fairfax Hospital (Virginia), North Carolina Baptist Hospital and Sinai Hospital (Baltimore, Maryland).

Most of the 20 have signified their choice of graduate training (Table 2). Eight of the 20 have elected to train in general surgery while four of the 20 are being prepared for some specialized form of surgery (ophthalmology, orthopedic surgery, gynecology). Potential primary care physicians (internal medicine, family medicine or pediatrics) constitute 25 per cent of this small population.

**Table 2
Summary of Career Directions**

Surgery, general	8
Surgery, orthopedic	2
Ophthalmology	1
Obstetrics, gynecology	1
Medicine	2
Family medicine	2
Pediatrics	1
unknown	3

The following seems to be apparent upon the basis of five years of experience with this program:

1. A substantial fraction of Rhode Islanders who were or are attending foreign medical schools have been invited to take the supervising clinical portion of their medical training in the hospitals affiliated with Brown University and under the direct supervision of the Brown faculty.

2. Of the 33 who began the program, six are currently in attendance, seven dropped out and 20 have completed the program.

3. The career directions of these 20 physicians, based upon their choice of residency programs, is substantially different than that observed with the regular Brown University medical students. The commonly stated contention that the US foreign medical students are more likely to enter primary care medicine does not seem to be verified by the early indications derived from this small sample of 20. While 85 per cent of the recent Brown University Class of 1978 have entered internships in primary care medicine (ie, internal medicine, family medicine, pediatrics), only 25 per cent of the Rhode Island

foreign medical student group entered similar programs.

4. Almost half of this group have elected internships in the State of Rhode Island and have signified, informally, that they will likely establish their practices here.

Current prerequisites for admission, either to the Program of Supervised Clinical Education or to the Fifth Pathway Program include the following:

1. United States citizenship and residency in the State of Rhode Island.

2. Completion in an accredited American college or university, of undergraduate pre-medical work of a nature and quality acceptable for matriculation in an accredited American medical school.

3. Current studies at a medical school recognized by the World Health Organization, with successful completion of those courses equivalent to the courses customarily required in the first two years of US medical schools.

4. Attainment of a passing score 75 or higher on the ECFMG examination.

5. Interview with a member of the Medical Admission Advisory Committee.

Further information may be obtained by writing: Medical Admissions Office, Brown University, Box G, Providence, Rhode Island 02912.

A special student will be considered to have successfully completed the program when the academic requirements of each of the three clinical clerkships, as stipulated by the appropriate faculty, have been fulfilled; successful completion of the National Board of Medical Examiners test (Part II); and fulfillment of all University tuition requirements. (The substantial majority of these special students, however, have been given scholarship assistance and other forms of financial help to aid them).

It appears that the original goals of this specialized program are being fulfilled.

Stanley M. Aronson, MD
Dean of Medicine
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Books Received For Review

BASIC AND CLINICAL IMMUNOLOGY by H. H. Fudenberg, D. P. Stites, J. D. Caldwell, J. V. Wells. Los Altos, California, Lange, 1978.

CURRENT OBSTETRIC AND GYNECOLOGIC DIAGNOSIS AND TREATMENT by Ralph C. Benson. 2nd Edition. Los Altos, California, Lange, 1978. \$18.00

VISIONETICS: THE HOLISTIC WAY TO BETTER EYESIGHT by Lisette Scholl with John Selby. Garden City, Doubleday, 1978. \$4.95

GENERAL UROLOGY by D. R. Smith. 9th Edition. Los Altos, California, Lange, 1978. \$14.00

REVIEW OF MEDICAL PHARMACOLOGY by F. H. Meyers, E. Jawetz, A. Goldfien. 6th Edition. Los Altos, California, Lange, 1978. \$14.50

WHOLISTIC DIMENSIONS IN HEALING: A RESOURCE GUIDE by Leslie Kaslof. Garden City, Doubleday, 1978. \$7.95

BETWEEN YOU AND ME: A SENSIBLE AND AUTHORITATIVE GUIDE TO THE CARE AND TREATMENT OF YOUR SKIN by John A. Parrish, Barbara A. Gilchrest, and Thomas B. Fitzpatrick. Boston-Toronto, Little, Brown, 1978. \$8.95

AUTOBIOGRAPHY OF DYING by Archie Hanlan. Garden City, Doubleday, 1979. \$8.95

CURRENT MEDICAL DIAGNOSIS AND TREATMENT by Marcus A. Krupp and Milton J. Chatton. Los Altos, California, Lange, 1979.

THE CHEMISTRY OF HUMAN BEHAVIOR by Herbert L. Meltzer. Chicago, Nelson-Hall, 1979. \$17.95

HEALTHWISE HANDBOOK: A GUIDE TO RESPONSIBLE HEALTH CARE by Toni M. Roberts, Kathleen McIntosh Tinker, and Don Kemper. Garden City, Doubleday, 1979. \$6.95

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Brief Summary

INDICATION: Tenuate and Tenuate Dospan are indicated in the management of exogenous obesity as a short-term adjunct (a few weeks) in a regimen of weight reduction based on caloric restriction. The limited usefulness of agents of this class should be measured against possible risk factors inherent in their use such as those described below.

CONTRAINDICATIONS: Advanced arteriosclerosis, hyperthyroidism, known hypersensitivity or idiosyncrasy to the sympathomimetic amines, glaucoma. Agitated states. Patients with a history of drug abuse. During or within 14 days following the administration of monoamine oxidase inhibitors, (hypertensive crises may result).

WARNINGS: If tolerance develops, the recommended dose should not be exceeded in an attempt to increase the effect, rather, the drug should be discontinued. Tenuate may impair the ability of the patient to engage in potentially hazardous activities such as operating machinery or driving a motor vehicle, the patient should therefore be cautioned accordingly. **Drug Dependence:** Tenuate has some chemical and pharmacologic similarities to the amphetamines and other related stimulant drugs that have been extensively abused. There have been reports of subjects becoming psychologically dependent on diethylpropion. The possibility of abuse should be kept in mind when evaluating the desirability of including a drug as part of a weight reduction program. Abuse of amphetamines and related drugs may be associated with varying degrees of psychologic dependence and social dysfunction which, in the case of certain drugs, may be severe. There are reports of patients who have increased the dosage to many times that recommended. Abrupt cessation following prolonged high dosage administration results in extreme fatigue and mental depression, changes are also noted on the sleep EEG. Manifestations of chronic intoxication with anorectic drugs include severe dermatoses, marked insomnia, irritability, hyperactivity, and personality changes. The most severe manifestation of chronic intoxications is psychosis, often clinically indistinguishable from schizophrenia. **Use in Pregnancy:** Although rat and human reproductive studies have not indicated adverse effects, the use of Tenuate by women who are pregnant or may become pregnant requires that the potential benefits be weighed against the potential risks. **Use in Children:** Tenuate is not recommended for use in children under 12 years of age.

PRECAUTIONS: Caution is to be exercised in prescribing Tenuate for patients with hypertension or with symptomatic cardiovascular disease, including arrhythmias. Tenuate should not be administered to patients with severe hypertension. Insulin requirements in diabetes mellitus may be altered in association with the use of Tenuate and the concomitant dietary regimen. Tenuate may decrease the hypotensive effect of guanethidine. The least amount feasible should be prescribed or dispensed at one time in order to minimize the possibility of overdose. Reports suggest that Tenuate may increase convulsions in some epileptics. Therefore, epileptics receiving Tenuate should be carefully monitored. Titration of dose or discontinuance of Tenuate may be necessary.

ADVERSE REACTIONS: **Cardiovascular:** Palpitation, tachycardia, elevation of blood pressure, precordial pain, arrhythmia. One published report described T-wave changes in the ECG of a healthy young male after ingestion of diethylpropion hydrochloride. **Central Nervous System:** Overstimulation, nervousness, restlessness, dizziness, jitteriness, insomnia, anxiety, euphoria, depression, dysphoria, tremor, dyskinesia, mydriasis, drowsiness, malaise, headache, rarely psychotic episodes at recommended doses. In a few epileptics an increase in convulsive episodes has been reported. **Gastrointestinal:** Dryness of the mouth, unpleasant taste, nausea, vomiting, abdominal discomfort, diarrhea, constipation, other gastrointestinal disturbances. **Allergic:** Urticaria, rash, ecchymosis, erythema. **Endocrine:** Impotence, changes in libido, gynecomastia, menstrual upset. **Hematopoietic System:** Bone marrow depression, agranulocytosis, leukopenia. **Miscellaneous:** A variety of miscellaneous adverse reactions has been reported by physicians. These include complaints such as dyspnea, hair loss, muscle pain, dysuria, increased sweating, and polyuria.

DDSAGE AND ADMINISTRATION: Tenuate (diethylpropion hydrochloride): One 25 mg. tablet three times daily, one hour before meals, and in mid-evening if desired to overcome night hunger. Tenuate Dospan (diethylpropion hydrochloride) controlled-release: One 75 mg. tablet daily, swallowed whole, in mid-morning. Tenuate is not recommended for use in children under 12 years of age.

OVERDOSAGE: Manifestations of acute overdose include restlessness, tremor, hyperreflexia, rapid respiration, confusion, assaultiveness, hallucinations, panic states. Fatigue and depression usually follow the central stimulation. Cardiovascular effects include arrhythmias, hypertension or hypotension and circulatory collapse. Gastrointestinal symptoms include nausea, vomiting, diarrhea, and abdominal cramps. Overdose of pharmacologically similar compounds has resulted in fatal poisoning, usually terminating in convulsions and coma. Management of acute Tenuate intoxication is largely symptomatic and includes lavage and sedation with a barbiturate. Experience with hemodialysis or peritoneal dialysis is inadequate to permit recommendation in this regard. Intravenous phenolamine (Regitine®) has been suggested on pharmacologic grounds for possible acute, severe hypertension, if this complicates Tenuate overdose.

Product Information as of April, 1976

MERRELL-NATIONAL LABORATORIES Inc.

Cayey, Puerto Rico 00633

Direct Medical Inquiries to

MERRELL-NATIONAL LABORATORIES

Division of Richardson-Merrell Inc.

Cincinnati, Ohio 45215, U.S.A.

Licenser of Merrell®

References: 1. Citations available on request -- Medical Research Department, MERRELL RESEARCH CENTER, MERRELL NATIONAL LABORATORIES, Cincinnati, Ohio 45215. 2. Hoekenga, M.T., O'Dillon, R.H., and Leyland, H.M. A Comprehensive Review of Diethylpropion Hydrochloride. International Symposium on Central Mechanisms of Anorectic Drugs, Florence, Italy, Jan. 20-21, 1977.

Merrell

6-3921 (YS87A)

**Whether overweight is a
complicating factor...
or just uncomplicated overweight.**

Tenuate® Dospan®^{IV} **(diethylpropion hydrochloride NF)** **75 mg. controlled-release tablets**

A useful short-term adjunct in an indicated weight loss program.

Overweight patients in certain diagnostic categories often require strict obesity control. Diethylpropion hydrochloride has been reported useful in obese patients with hypertension, symptomatic cardiovascular disease, or diabetes. While it is not suggested that Tenuate in any way reduces these complications in the overweight, it may have a useful place as a short-term adjunct in a prescribed dietary regimen. (Tenuate should not be administered to patients with severe hypertension; see additional Warnings and Precautions on the opposite page.)

In uncomplicated obesity.

Many patients, on the other hand, present with excess fat but no disease. While this condition is often termed uncomplicated obesity, complications of both a social and a psychologic nature may be distressingly real for the patients. In these cases, a short-term regimen of Tenuate can help reinforce your dietary counsel during the important early weeks of an indicated weight loss program.

Clinical effectiveness.

The anorexic effectiveness of diethylpropion hydrochloride is well documented. No less than 16 separate double-blind, placebo-controlled studies attest to its usefulness in daily practice.¹ And the unique chemistry of Tenuate provides "...anorexic potency with minimal overt central nervous system or cardiovascular stimulation."² Compared with the amphetamines, diethylpropion has minimal potential for abuse.

**Tenuate—it makes sense.
And it's responsible medicine.**

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For prescribing information see opposite page.



The evidence of experience

Since October 1974 when Motrin® (ibuprofen) was introduced in the United States, it has been used by more than 6,000,000 patients with rheumatoid arthritis* or osteoarthritis. Rarely has an ethical pharmaceutical product been prescribed for so many patients in so short a time. In addition, more than 450 studies presenting new data related to Motrin have been published.

The 6,000,000 patients already treated with Motrin is an objective measure of physicians' confidence in the ability of Motrin to relieve the pain and inflammation associated with rheumatoid arthritis and osteoarthritis.

So it is not surprising that in this short period Motrin has become the most frequently prescribed alternative to aspirin. Motrin relieves joint pain and inflammation as effectively as indomethacin or aspirin, but causes significantly fewer CNS and milder GI reactions.

However, gastrointestinal bleeding, sometimes severe, has been associated with Motrin, aspirin, indomethacin, and other nonsteroidal antiarthritic agents.

*The safety and effectiveness of Motrin have not been established in patients with Functional Class IV rheumatoid arthritis (incapacitated, largely or wholly bedridden, or confined to wheelchair; little or no self-care).



Motrin^{400 mg} TABLETS

ibuprofen, Upjohn

The confidence that comes from experience—
one more reason to prescribe Motrin.

Please turn page for a brief summary of prescribing information.

Upjohn

The Upjohn Company, Kalamazoo, Michigan 49001

The confidence that comes from experience—
one more reason to prescribe

Motrin^{400 mg} TABLETS

ibuprofen, Upjohn

Indications and Usage: Treatment of signs and symptoms of rheumatoid arthritis and osteoarthritis during acute flares and in long-term management. Safety and efficacy have not been established in Functional Class IV rheumatoid arthritis.

Contraindications: Individuals hypersensitive to it, or with the syndrome of nasal polyps, angioedema and bronchospastic reactivity to aspirin or other nonsteroidal anti-inflammatory agents (see WARNINGS).

Warnings: Anaphylactoid reactions have occurred in patients with aspirin hypersensitivity (see CONTRAINDICATIONS).

Peptic ulceration and gastrointestinal bleeding, sometimes severe, have been reported. Ulceration, perforation, and bleeding may end fatally. An association has not been established. Motrin should be given under close supervision to patients with a history of upper gastrointestinal tract disease, only after consulting ADVERSE REACTIONS.

In patients with active peptic ulcer and active rheumatoid arthritis, nonulcerogenic drugs, such as gold, should be tried. If Motrin must be given, the patient should be under close supervision for signs of ulcer perforation or gastrointestinal bleeding.

Precautions: Blurred and/or diminished vision, scotomata, and/or changes in color vision have been reported. If these develop, discontinue Motrin and the patient should have an ophthalmologic examination, including central visual fields.

Fluid retention and edema have been associated with Motrin, use with caution in patients with a history of cardiac decompensation.

Motrin can inhibit platelet aggregation and prolong bleeding time. Use with caution in persons with intrinsic coagulation defects and those on anticoagulant therapy.

Patients should report signs or symptoms of gastrointestinal ulceration or bleeding, blurred vision or other eye symptoms, skin rash, weight gain, or edema.

To avoid exacerbation of disease or adrenal insufficiency, patients on prolonged corticosteroid therapy should have therapy tapered slowly when Motrin is added.

Drug interactions. Aspirin used concomitantly may decrease Motrin blood levels. Coumarin. Bleeding has been reported in patients taking Motrin and coumarin.

Pregnancy and nursing mothers: Motrin should not be taken during pregnancy or by nursing mothers.

Adverse Reactions

Incidence greater than 1%

Gastrointestinal: The most frequent type of adverse reaction occurring with Motrin (ibuprofen) is gastrointestinal (4% to 16%). This includes nausea^{*}, epigastric pain^{*}, heartburn^{*}, diarrhea, abdominal distress, nausea and vomiting, indigestion, constipation, abdominal cramps or pain, fullness of the GI tract (bloating and flatulence). **Central Nervous System:** Dizziness^{*}, headache, nervousness. **Dermatologic:** Rash^{*} (including maculopapular type), pruritus. **Special Senses:** Tinnitus. **Metabolic:** Decreased appetite, edema, fluid retention. Fluid retention generally responds promptly to drug discontinuation (see PRECAUTIONS).

Incidence: Unmarked 1% to 3%; *3% to 9%.

Incidence less than 1 in 100

Gastrointestinal: Upper GI ulcer with bleeding and/or perforation, hemorrhage, melena. **Central Nervous System:** Depression, insomnia. **Dermatologic:** Vesiculobullous eruptions, urticaria, erythema multiforme. **Cardiovascular:** Congestive heart failure in patients with marginal cardiac function, elevated blood pressure. **Special Senses:** Amblyopia (see PRECAUTIONS). **Hematologic:** Leukopenia, decreased hemoglobin and hematocrit.

Causal relationship unknown

Gastrointestinal: Hepatitis, jaundice, abnormal liver function. **Central Nervous System:** Paresthesias, hallucinations, dream abnormalities. **Dermatologic:** Alopecia, Stevens-Johnson syndrome. **Special Senses:** Conjunctivitis, diplopia, optic neuritis. **Hematologic:** Hemolytic anemia, thrombocytopenia, granulocytopenia, bleeding episodes. **Allergic:** Fever, serum sickness, lupus erythematosus syndrome. **Endocrine:** Gynecomastia, hypoglycemia. **Cardiovascular:** Arrhythmias. **Renal:** Decreased creatinine clearance, polyuria, azotemia.

Overdosage: In cases of acute overdosage, the stomach should be emptied. The drug is acidic and excreted in the urine, so alkaline diuresis may be beneficial.

Dosage and Administration: Suggested dosage is 300 or 400 mg t.i.d. or q.i.d. Do not exceed 2400 mg per day.

How Supplied

Motrin Tablets, 300 mg (white)

Bottles of 60

Bottles of 500

NDC 0009-0733-01

NDC 0009-0733-02

Motrin Tablets, 400 mg (orange)

Bottles of 60

Bottles of 500

Unit-dose package of 100

Unit of Use bottles of 120

NDC 0009-0750-01

NDC 0009-0750-02

NDC 0009-0750-06

NDC 0009-0750-26

Caution: Federal law prohibits dispensing without prescription.

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Pediatric Medicine and Education: Redefining Roles in Support of the Child

Cooperation Between Medicine And Education Is Essential For A Rich Healing And Teaching Environment For Our Children

By Thomas Schmidt, PhD

I am delighted to be invited to give this lecture. I represent another whole set of institutions that, like yours, has its customs, language, and behavior, and a common client — the child; but a set of institutions that is very different, with different purposes, style, language, and training. What I hope is that our two systems, that of pediatric medicine and that of education, have not only a common client, but a developing set of common goals. I am here today to explore that partnership, its problems, and its opportunities in the hope that the exploration may be useful to us both, but especially useful to the child.

Problems with Bureaucracies

We manage two massive systems for the sake of children. We are indispensable agents in the life and death, success and failure of our children. We are the *deus ex machina* of modern western society with powers that the Borgias would have envied and Machiavelli applauded. But how well do we serve our mutual clients? How do they fare as they enter and leave our kingdoms? Are we

equitable in our judgments, even-handed in the rewards we dispense, sensitive in our administration, sensible in our border restrictions as children journey back and forth across our institutional boundaries in the search of appropriate care? We often miss opportunities.

The other day I read a story about one of our New England entrepreneurs — a tinkerer by some standards, a man in either Vermont or New Hampshire who in good Yankee tradition was trying to use a mill race and dam for hydroelectric power for his new business. His dam let go one day; and, faced with a hundred thousand dollar bill for repairs, he began to call the Department of Energy in Washington for help. Full of excitement and hope, he saw his project for energy saving as a modest implementation of national energy policy. His first phone call to Washington began to give him the clue that federal agencies did not reside in the same world of reality as the rest of us. One hundred fifty dollars of long distance phone calls later, he gave up trying to interest anyone in his case. He wrote in detail to Amy Carter about his problem with the plea that she, as an intelligent child, might understand his problem and the nation's opportunity to help the energy crisis. Six weeks later he received his first official response from Washington. It was a postcard with a picture of Amy Carter on one side and a printed

Read at Rhode Island Hospital on July 26, 1978.

THOMAS SCHMIDT, PhD, *Commissioner
of Education for the State of Rhode Island;
Summer Visiting Professor in the Department
of Pediatrics, Rhode Island Hospital.*

message on the other: "It is so nice to have you for my friend. Love, Amy Carter."

Such stories are not uncommon in large bureaucracies as they struggle to deal with the public. Our clients could add their stories of the times we fail to respond to the needs of our patients and students.

Cooperation with the Community

As pediatric medicine and education attempt to work together, we will have to deal with two kinds of problems. One problem involves our capacity to serve the children (and their families) who move back and forth between our systems of medical care and education. Such services demand a coordinated educational and medical plan.

The other, and just as important a problem, involves our capacity not only to work with each other, but our capability to work with the community. Our medical and educational institutions are part of a larger community of families; other institutions such as churches; public and private agencies of local, state, and federal sponsorship; private industry; the courts; and political jurisdictions of all levels. Our capacity to relate to this community outside the narrow definitions of medicine and education is now critical for our survival and our capacity to serve the children under our care. We now know that healing and education involve a mutual responsibility and interdependence with the families and institutions of the surrounding local, state, and national community. We shall not be as effective in serving our children if we concentrate upon narrow interdisciplinary cooperation, as important as that is. Fortunately, most of the same techniques, skills, and organizational structures can be used for community relationships and for interdisciplinary cooperation between pediatric medicine and education.

I think we do a pretty good job. We educate a remarkable percentage of the American young people; we send on to college astounding numbers of both young and old. Medicine has developed a remarkable treatment program, especially in pediatrics. Why then go through all the messy business of opening up new relationships if we have been so successful? In my mind, we are like that Amy Carter postcard; it was an

answer, but it was not responding to the question that was asked.

We can be more responsive if we practice the difficult skills of working with the supporting and strengthening services of the community outside the boundaries of our specialties. In fact, I am becoming convinced that we cannot heal or teach if we are not aware of and using our extra-disciplinary resources. I want to spend some time on the skills and organizational structures needed for cooperation. But first, let me tell you about two programs that are underway right now in my world. You can compare this with what you are doing. I think we shall see that we are both starting to move in the right direction.

One program deals with the concern for the child who moves back and forth through several large institutions for educational care and treatment. The other is an experiment to identify and involve community resources in what used to be considered the private domain of the educators.

Executive Directorate for Children and Youth Services.

The first program was created by Governor J. Joseph Garrahy to modernize the current services for children in the State of Rhode Island. The Governor, by executive order on March 26, 1978, created an Executive Directorate for Children and Youth Services composed of the State Directors of Social and Rehabilitative Services; Mental Health, Retardation, and Hospitals; and Corrections, and the Department of Administration and Education. The Executive Directorate is required to delineate individual department responsibilities for children and youth, to prepare policies and procedures for inter-departmental planning, and to work with the private sector and voluntary agencies to develop a new network of youth services.

One of the most important, most difficult, and most interesting tasks of the directorate is to design a case management system that will identify the child entering the educational, custodial, welfare, or treatment agency, and give case management responsibility to an appropriate team to assure that the child is followed, treated, and educated as to plan until discharge. In addition the process would bring as appropriate the resources of

the communities outside the agencies into service for the child.

It may seem simple to design such a system; but we are talking about a minimum of six agencies. These include a powerful family court, intake procedures, diagnosis, crisis intervention, shelter, treatment, placement, after-care and follow-up for children of all ages. They range from the battered to the neglected, dependent, handicapped, emotionally disturbed, and to wayward, delinquent, or status offenders. These children have parents of all sorts and conditions, and social settings from the deprived to affluent. In addition, the present management system embraces dozens of autonomous and of semi-autonomous departments and agencies supported by state, local, and federal funds under state, local, federal, and private mandates. When you put a system of this complexity in place and then ask it to behave rationally and effectively toward a child, it is remarkable indeed if it performs without inadvertent pain. A research paper we have prepared on one part of this puzzle, the relationship of the State Department of Education to handicapped children in the system, ran to three single-spaced pages and will cost \$12,000 just to describe the scope of the research needed to get the data to make intelligent plans.

I mention the Governor's Executive Directorate, because it is a far-sighted and desperately needed program. It is also a very difficult task, one that is moving, but moving slowly.

I have noted that we must not only learn to work together, but to work with the community. We have learned that much of what we try to do in medicine and education is either enhanced or blocked by societal attitudes, economics, politics, and similar influences. If we are to succeed for the sake of our children, we shall be obliged not only to improve the way we work together, but the way we work with critical parts of the culture around us. This requires a whole new attitude to the world outside our institutional walls. It means that we must learn to work with those who do not speak our professional language, in some cases with those who do not speak English. It means that we must be acute observers of social dynamics, public opinion, and politics and be willing to get bloodied in those rough and tumble arenas.

This will be a big shift for most of us in education and medicine. We have been taught that rewards come to the successful specialist inside our disciplines and that there is danger outside the institutional walls.

Program for Excellence

I should like to discuss a program we are trying in education as an example of what I mean. It is ambitious, perhaps idealistic, certainly difficult; but it is an attempt to redefine education not as institutional schooling alone, but as a teaching-learning process in the wider community for the children of the community.

It is called the Program for Excellence. It is designed not to prescribe solutions, but to challenge those in our educational systems to think deeply in three aspects of their discipline. It is designed not to prescribe narrowly, but to assist the local schools to come up with responses that will work for their areas of the state.

Upon analysis, we believe that the increased centralization of the educational decision-making process has contributed to the growing alienation of Rhode Islanders from their schools. The individual has felt little ownership of the school and, therefore, has felt little responsibility for its failure or success. In addition, one out of every two adult Rhode Islanders lacks a high school diploma, further exacerbating the feelings of isolation from the school.

Concurrently, Rhode Islanders enjoy a real sense of community. They refer to the villages within larger towns and cities as their geographical neighborhoods. Ethnic areas exist throughout the state, rich in Portuguese, Italian, French Canadian, Hispanic, and Irish cultures and traditions. There is a pride in community and a real attachment to the unique geography of Rhode Island land and water.

In addition, the status quo is beginning to show signs of readiness for change. We know there is unrest and dissatisfaction with the way things are now being done. If the tension and energy inherent in each element—the feelings of alienation and isolation, the sense of geographical and ethnic neighborhoods, dissatisfaction with the status quo—can all be harnessed and guided into a positive

program for excellence, the results can be extraordinary.

We are, therefore, embarking on a new statewide program that will move from the present centralization of education to decentralized neighborhood school control. Change will be effected by: (1) increasing local control through community involvement and school site management (a strong school in a strong neighborhood) (2) offering a real choice to consumers of educational products and services and (3) providing educational services at the level appropriate to attaining cost effectiveness and increased quality in those services.

The first goal, increasing local control, is the key to the program. If the community can become a true partner with the school, a real feeling of school ownership can be developed that will be the driving force for excellence. Education cannot realistically expect additional dollars, but it can tap the energy, manpower, hopes, aspiration, and pride of the communities in which our schools are imbedded.

What is important about this Program for Excellence is the emphasis it places upon analysis of the great forces that are moving in our society and trying to harness them. If anyone has any doubt that there are "Great Forces", let him be present at a financial town meeting and hear the taxpayer's speeches on rising costs, declining scores, discipline, and reading and writing skills!

What I hope the Program for Excellence will do in time is to harness the energy of the concerns and the aspirations of the community for the good of the educational system. To harness that energy means that we have to let the walls down from around the specialty of education, to cease (for openers) the horrible pseudo-scientific jargon we use to communicate educator to educator, to value the insights and concerns of those outside of education, and to become willingly and gratefully a partner in the life of the community. This is a difficult, almost impossible, task for us. But perhaps made easier by the knowledge that, if we do not voluntarily take down the walls that isolate education, there are others less gentle, and presumably less constructive, who will take them down for us.

In both illustrations—the Executive Dir-

ectorate and the Program for Excellence—we must develop skills that are notably scarce in our profession. We must become managers of systems that span not just an agency or institution, but the inter-organization. These are spans of control that would make Textron's organizational chart look simple. We must take down some protective walls. We must learn to deal with ambiguities. We will have to become students of the classroom, of local and state politics, and of interest group politics, and masters of the techniques of coordination and cooperation.

"Dynamics of Cooperation"

I should like to devote the rest of this paper to an identification of what I term "The Dynamics of Cooperation," that is, the organizational and social forces that are present in every situation where disciplines or institutions reach out to work together. I hope by identifying these dynamics of cooperation that we shall have identified some forces that we both face in dealing with each other and with our communities.

My assumption is that we exist to serve the client—the children. I further assume that we all know that, if we are to serve them well, most of us will have to become skilled at working with others who have very different backgrounds from ours. Only in this way can we achieve the best kind of patient care or the best kind of an educational system. The isolated researcher may not have to be concerned with these issues, but every practitioner from the administrators to the private practitioner will deal with most, if not all, of the social and organizational phenomena I shall describe.

First, we must understand why institutions, organizations, and groups, large and small reach out to explore cooperation. They do it to gain something. They reach out because their self-interest dictates that they do. They try to cooperate because they want something.

Self-interest may be driven by many sources. For some it is the acquisition of resources: money, staff, or the storing up of power for future forays into the world for future resources. We who run large and small institutions hope that by cooperation with another individual or group we will acquire what we want. For example, you want to serve children better. Some have seen that it

is necessary to learn to cooperate with bureaucrats like me, with educational specialists, with teachers, and with principals in order to do so. If you find a way to harness us, in cooperation, you will have a better chance of serving your clients.

Our research has shown that the drive to reach out is increased by the desire for dollars and people, but also by enlightened conviction, and moral commitment. We often reach out because we believe it will be a better world for someone else if we do.

We also reach out because some institution more powerful than we are makes us do it. The courts, federal and state governments, and powerful interest groups propel us out of our organizational bulwarks into the fields of cooperation and combat.

Point One: We cooperate because it is to our advantage (and remember that can be defined as an advantage for our clients).

Point Two: We engage in exploratory courtships. We don't rush out and cooperate. We test, we talk, we argue, we flirt, we take the time necessary to convince ourselves that the relationship is worthwhile and that it will be safe. We also want to know that the resources are there, and that the resources will be shared with us. We also want to know that the cost of attaining something is one that we can afford and that the other group is trustworthy and will deliver what is negotiated. This is the agonizing part of the process. It is characterized by suspicions, fears, conflicts, and false starts and takes more time than anyone ever allows for.

Most people are shocked at how long and sometimes endless the courtship period seems to be. But organizations are dealing with their life blood, their resources. We often speak different technical languages, have far different purposes, and have different traditions and customs. Our research indicates that an indispensable ingredient is time spent in contact with one another. Time overcomes barriers and leads to a successful completion of the courtship to some kind of marriage or at least to a temporary co-habitation contract.

Point Three: An agreement is arrived at. The courtship is over, and the lawyers draw up the contract, or the memorandum of understanding is written, or just a handshake is exchanged. The formality of the agreement

may be very formal, expressed in a contract, or very loose.

Point Four: The exchange is consummated, and the trading of resources begins. Monitors check the contract from time to time to make sure that what happens is what was agreed upon. If necessary, the contract is adjusted or policed.

Our studies show that every move to coordination and cooperation between institutions, no matter how small, goes through these four steps in one form or another. Even the pediatrician who calls up the principal for information about a child has to (1) want the help and think the principal may supply some help, (2) check it out before going too far (some principals like some doctors are not to be trusted with children), (3) establish what will be exchanged (usually information in this case), and (4) consummate the deal. This may take only twenty minutes on the phone. It may take months if it is a child with severe problems.

The steps are the same when large institutions seek to cooperate. The process is exceedingly complex, and the time required and staff required to go through all four steps may be very great. It helps to be aware of the steps. If we are to improve in the process, we must not only be aware of the steps, but must also have some skills or in large organizations some persons who are skilled in taking these steps. One of the keys to cooperation is to have at the top administrative level individuals who are trained and comfortable in crossing boundaries.

Even the "combat zone" in Boston has boundary people. These are the sidewalk barkers outside the topless bars. They reach out and bring the customers in. Inelegant boundary people, but very very skilled. They don't do the basic work, which is dancing and serving drinks, but they identify and negotiate resources for the organization.

We are used to having our sidewalk barkers too. We have grant writers, and department chairman, and administrators who plague foundations and Health, Education, and Welfare with our pleas. They learn to present themselves and our organizations as useful, competent, and successful practitioners of our arts to enhance the resources acquisition game.

But today we are talking about working with other professional groups such as education, with interest groups, with parents, with concerned citizens, with politicians, and with community leaders. Here we have a problem. Yehudi Cohen, an anthropologist, in the study of the American Indian of the Southwest made the observation that highly differentiated societies tend to erect impermeable boundaries. He discovered that tribes of Indians related to each other and living only a few miles apart down the road had formed such a complex set of differentiated activities that it took a formal ceremony just to communicate with each other. Are we so different? Look at our tribal customs as our highly differentiated professional tribes attempt to communicate. For example: Your chief, Leo Stern, called me up one day last year. "You don't know me," he said, "but . . ." Then he gave me the names of some of *my* trusted tribe of educators who he said would vouch for him. He said something that he thought might stimulate my interest about sharing resources and invited me for lunch—at his place. I accepted then called my tribe to check if he was to be trusted. He was well recommended, so I kept the date. We lunched, and talked, and arranged for further talk. We both knew we had the possibility of a resources exchange. It's been over a year, and to my knowledge no resources have been exchanged between the two highly differentiated tribes. The reason is the lack of good boundary people in my organization (and perhaps his) who could get on with the business of exploring the exchange and carrying out the four steps.

Now let us look at boundary people whether they be Doctor Stern or myself, or other persons in our organizations. Boundary people must be able to speak at least two languages. With medicine and education that is not easy. They must be trusted by both organizations. That is more difficult, because boundary people keep coming back with wild tales of resources out there in that dangerous unfamiliar world outside the institutional boundaries. They are suspect because they spend so much time "out there" with "them." We have to trust their judgment, and their integrity (they might have sold out to the enemy). Studies have been made of the characteristics of boundary people

and the ability of an organization to use them well. They usually have to seek and acquire power and legitimacy from the top authority in the organization. And woe to them if they break that trust or use that power incorrectly. (Heart disease and ulcers are of a higher incidence in boundary people than any other workers in an organization.)

So, we have to have boundary-spanning people who can seek out and negotiate relationships with the outside. This may be a practitioner, in a solo practice, and he must learn to trust himself. In small and large organizations one can usually spot the boundary person. He or she is up near the top. Such persons smile frequently and drink martinis for courage and milk for their ulcers.

But it is not enough to have boundary persons just to identify resources. We also have to be able to convince the rest of the organization that it is worth all the work, turmoil, and disruption of the routine to go after those resources. This is the step where lies the greatest weakness in organizations. There has to be the capacity to explain what is out there in terms the persons inside the organization will understand and appreciate. Using our tribal analogy, it means that not only must the chief and the scout have the ritual meetings around tables with coffee, lunches, white papers, and the like, but that a significantly large enough part of the organization must be convinced that it is safe to reach out. In my experience, budget officers are the worst of all the highly differentiated suspicious cantankerous isolates I have ever known. It is the number-crunching subspecies of the organizational animal who most often balks at cooperation. Lucky is the administrator who has a policy-oriented budget officer who is aware of the world outside of his balance sheets.

A good rule of thumb is that the farther inside the organization you go, the more buffered the layers are from the outside world. The more specialized the worker, the harder it will be to gain his or her cooperation in a venture that changes the way "things have always been done" inside the organization.

Therefore, we have to have in place in our organizations, if we are to be able to cooperate, not only good boundary people,

but mechanisms and individuals that are able to get in motion the internal leadership of the organization to explore, test and agree to, and carry out new exchanges through cooperation.

Barriers to Communication

Let us turn now to some barriers to communication and cooperation that we can identify as being fairly common as we search ways to work together. The most significant barrier is that of differentiation. We have noted that one anthropologist has suggested that the greater the degree of differentiation, the greater the walls or boundaries around the organization.

This is a very real problem brought about by the extraordinary increase in knowledge. As knowledge expands, we have used the principal of work simplification to assign specialties. In our two professions the explosion of specialties has become notable. As the specialties expand, we begin to have problems communicating between and among the specialties. Language, attitude, values, even scientific approaches begin to be very different in the various specialties. In education and medicine we have had to increase the time and energy necessary to have useful communication across the specialty boundaries.

We know that children have fallen between the cracks of the specialties. A learning-disabled child receives psychiatric help from the psychiatrist, neurological help from the neurologist, reading help from the reading specialist. In more cases than we like to admit some get no effective help at all. So we have moved to the team approach in both medicine and education to make sure that the specialists communicate and to make a complete diagnosis and prescription for an educational or medical care plan. Most of us can tell many war stories about the time and frustration involved in successful cooperation among highly differentiated specialties. We tend to solve the problem by doubling the time and effort and processes for communication, and so far this has worked. Whether or not the continued knowledge explosion will force us to rethink our whole approach is a real question. We now face the specter of spending more time trying to communicate with each other than we use in

helping the child. Fortunately, we now have well organized, vocal, and increasingly powerful parent and child advocates who will use the courts, the legislature, and congress to insure that we do solve this problem for the sake of the child. I underline this as a problem because I think it will worsen. We have very few devices now in place to keep it from becoming worse, if scientific knowledge continues to advance at the recent rate.

Because of differentiation we have certain other barriers to cooperation associated with our differences. One barrier is language. I have been very careful to use words in this discussion that I believe are common to us all. I hesitate to try to use medical vocabulary because one or two mistakes in the use of common medical terms would mark me as someone who does not know what he is talking about. Language is difficult for us, but language is an awesome problem for the parent and child as he or she faces the technical jargon of the medical and educational world. This is a real dilemma associated with differentiation, because precise terminology is essential to good treatment. But how do we let an outsider in? I believe that we can be much more sensitive when we talk to those outside the system. It means speaking two languages as part of our professional responsibility, but that is a small price to pay for the advantage of securing an understanding and cooperative parent or child.

It is also true that part of our problem with language comes from our own ego. The more jargon we speak, the more we are assumed to know. There is a certain glamour in certain classes or words. For example, aerospace and computer technology combined with pseudo-psychological terminology, bureaucratic federal numerology, and alphabet soup, have given education a buzzword vocabulary. Thus the initiates can talk while the others listen in awe or rage.

I expect that this barrier to communication will be solved as the layman's awe turns to organized rage. It won't be too soon for me.

Status is another barrier to communication. The greater the perceived difference, the more the problems. Patients in awe of the physicians don't ask good questions. They take what is said whether they understand it or not. This is great for the ego, but not

much help in patient relationships. A sensitivity to perceived status difference is critical in the medical and education professions.

Organizations have their own pecking order, just as do people, and organizations of different status have difficult times communicating. This is a constant block in community and political relationships.

Another barrier to communication is style. Doctors are touching and healing individuals. We in education are talking doctors. We have very different styles in our doctoring. Again and again fragile beginning lines of communication between us have been torn out because of impatience as one style encounters another. We value time differently. We look to different authorities. We are different psychologically, because our professions attract different psychological types. If we seem strange to one another it is only *that we are strange*. We are different, and that will not change. Style difference is given, and we must learn to understand, accept, and work with those kinds of differences. And if we in the medical-education relationship have problems with style, think of the difficulty politicians, community workers, parents, and children have with our style.

Summary

I have looked at the process by which organizations seek out cooperative relationships. I have identified differentiation, language, status, and style as barriers to communication between and among organizations. Let me now summarize these remarks.

I have titled the talk "Pediatric Medicine and Education—Redefining Roles in Support of the Child." What I am suggesting is that those in the medical profession and I in the educational profession have at this moment in history been given a large share of power. The physician holds life and death in his hands. I hold success and failure for a large part of life. Our society looks to us to protect and fulfill large parts of their lives.

Now society is questioning our power. It is not a wholesale dissatisfaction, but rising costs, fear of large institutions, alienation, and unfulfilled aspirations have begun to stir the consumer from acquiescence to apathy or rage.

One of the good things that is developing from our current consumers' revolt is a redefinition of our roles. We are in place to serve the child. That is, as they are wont to say, "the bottom line." When all else is discussed endlessly, we shall be judged by how well we serve the child. This demand for service has driven us into each others arms. We are reluctant lovers, full of bad breath and body odor, but we know that we have to work together if we are to serve the child effectively. To serve today's child medicine and education cannot be apart. The child has no boundary between body, mind, and spirit. For organizational reasons we have created institutions that serve the body only, the mind only, and the spirit only. Now our people want, and I think deserve, care of the whole person. The burden is on us to find ways to work together and to work with the outside community of churches, local agencies, interest groups, and governments to bring effective human services to the child.

Our power is in question. We must broaden it to include a partnership of child and parent so that not only the medical and educational team is the source of healing and knowledge, but also the family and community teams as well. If we do not do this effectively in the very near future, we shall have an increase of well-intentioned, but, I am afraid, destructive legislation and court activities which will bend, break, and confuse whole parts of our professions.

I am hopeful. I like the changes I see. But the time is so short. Unless we radically increase our skills at the cooperative approach to medicine and education we shall not escape a destructive drubbing.

More importantly we shall have lost opportunity after opportunity to provide rich healing and teaching environments for our children. No reward could be greater to induce us to get on with the complicated tasks ahead.

I am most grateful you have asked me to be with you today and hope we in education can respond to your thoughtful hospitality with effective cooperation. I think we can do it. I know we must.

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Proposal for a Palliative Care Unit in Rhode Island: The So-Called Hospice Concept

The Hospice Concept If Successfully Implemented In Rhode Island Could Serve As A Prototype

By Michael E. Scala, MD

Until early in the 20th century hospitals were institutions for the care of society's derelicts, whether due to physical illness, genetic causes, or psychological disruption. The essential services provided in such institutions were feeding, bathing, and general custodial care. A slow but progressive trend became evident as the industrial revolution provided the springboard for the explosive development of the physical and biological sciences. The technology gained from the fields of physics, electrical engineering, and chemistry have been applied through computers so that medicine now has a new electronic face. There is hardly an aspect of medicine that has not been drastically changed in diagnostic scope and therapeutic application by this new technology. Hospitals have now become workshops where our sick and injured are brought to be repaired and restored to previous working order. The degree to which a patient is restored to his previous state of being is synonymous with the degree of medicine's success. Hospitals

contain an impressive array of apparatus and equipment needed to attain our "cure" ends.

Within this framework of goals it is understandable that the patient who stands no chance of being cured, whether he is terminally ill or in a late stage of a degenerative disease, including old age, is thought not to belong in an acute general hospital. Reflecting these attitudes the hospital as it is organized, including its staff of doctors, nurses, and other personnel often pursues a tunnel vision type of behavioral course that serves efficiently to separate and isolate these dying and aging human beings.

Demographic studies reveal trends in our culture that further tend to isolate the terminally ill. The extended family, that in the past cared for all members of the family group when they spun out their individual dying, no longer prevails. The emphasis on a mobile society, smaller families, husbands and wives as breadwinners, and increased longevity has served to erode the concept and nature of the extended family. At the present time 70 to 80 per cent of all Americans who die will die an institutional death in a hospital, nursing home, or home for the aged.

These trends thus define in many ways the essential problem. At a moment in history when most Americans live to age 72 and

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beyond, with life expectancy increasing yearly, their final days, due either to old age or illness, are spent away from persons and surroundings that have given their individual lives traditional and historical meaning. Their deaths occur in institutions, not at home! Yet these institutions because of their structure and philosophy are ill equipped actually to "care" for them.

The recognition of this problem by the public and governmental health care agencies is provoking a good deal of personal and collective concern and anxiety. Title XIX of the Social Security Act reflects the interest in dying and terminal care. The applicable regulations make the explicit point that skilled care, though it will not cure or rehabilitate the patient, is still needed for the terminally ill to prevent deterioration or to sustain present capabilities.

While recognizing that hospitals do control the physical pain that is a primary concern in treating the dying cancer patient, it is emphasized that pain has many aspects that combine to produce the total picture of clinical pain. Pain is affected by mental, cultural, social, and spiritual facets, as well as physiological. The hospital as a busy curing, repairing, and replacing workshop often leaves much to be desired when one is faced with all of the aspects of pain that the terminally ill and aged must endure. Further, institutional settings ordinarily do not provide adequate groundwork for working through the bereavement process that surviving family and friends normally experience.

In an effort to be more responsive and sensitive to the needs of the terminally ill, the hospice concept has gradually taken form in the minds of many Americans. Although the concept does not mean the same thing to all persons, the central theme is emerging.

Originally, the hospice was a resting station for travelers or pilgrims during the Crusades. As these weary travelers returned from battle in distant lands, they were often so physically spent and sorely wounded, that they could travel no further and could not return home. The hospice served as a way-station, combining somewhat the skills of a hospital and the hospitality and friendliness of a home.

It is the goal of the present-day hospice to provide a setting in which the dying can

obtain the benefits and services of modern technical medicine administered with the traditional humanistic art of medicine. In a hospice the individual symbolic and behavioral values of a patient are recognized from his own point of view as he is dying. It is a critical concept of the hospice that the concerns of the dying patient for the anticipated grief of his loved ones should be cared for by the staff both before the patient dies and after his death. It should be observed that professional compassionate home care programs and primary hospital "care" at the hospice, though necessary, are secondary to a skillfully administered program of pain control embodying the latest pharmacological advances.

Site

The implementation of the hospice concept has taken two forms: a) a free-standing, independent hospice unit and b) a hospice unit within an already existing facility. At the present time a hospice unit in the Rhode Island area realistically may best be established within an existing general hospital. There appear to be certain advantages to this approach. The population requiring these services is already present within any hospital. The supporting structure — doctors, nurses, social service, and food services — are already effectively organized. It would seem that without great additional financial burden to the hospital, state government, or the family such patients could easily be sorted out within the hospital so as to assemble them in one area. Such an arrangement may well be cost effective and actually reduce total cost per patient.

Personnel

At a number of the general hospitals in Rhode Island medical, nursing, and social service personnel have already been identified as having special interests as well as special skills in caring for terminally ill patients. This target group during the past three years have increased their academic proficiency through involvement in an organization of seminars, workshops, and ward experiences as well as developing counselling skills so as to qualify them to participate in this program. This primary group would be responsible for the

organization and day-to-day care of the hospitalized patient.

Consultants

A full spectrum of consultants is necessary, certainly to include pharmacology, surgery, medicine, psychiatry, and ancillary specialties. A number of this group have already indicated their willingness to participate on a voluntary basis. A third cadre of personnel is necessary in the form of religious support, home care, and visiting nurses. The development of a volunteer core must also be encouraged from groups that have been identified in the past such as hospital auxiliaries, men and women who themselves have experienced catastrophic losses, and other concerned citizens.

Medical Student Involvement

It would seem that a unit such as has been described would provide an excellent opportunity for medical students to learn first-hand early in their careers that the art of medicine, its compassionate commitment, has as much to offer as all of the technological advances. Students would have the opportunity to work at a research level or on a one-to-one level on the unit. An opportunity such as this at this time, I believe, would be unique and innovative for future physicians being educated in the Brown Medical Program.

Special Needs

Among the special needs are the committed support of hospital administrations and the committed support of nursing administrations. A certain amount of personnel shuffling would be required as well as the creation of two or three new nursing positions. It would have to be recognized that the hospice unit has a different behavioral program from the rest of the hospital and would require flexibility in the hospital context.

Support Systems for Education


Among possible support systems for education are the Thanatology Association of Rhode Island, Inc., the Medical Program at Brown University, and the core of physicians with experience in this field.

Evaluation Process

A protocol for an outcome study will be developed to determine if personnel have met their personal as well as unit goals. Families of deceased and terminally ill patients will be interviewed using already established techniques and reference frames to determine if they have been able better to cope with the bereavement process. Patients will be observed and questioned to determine if they have "lived until their death" in an anxiety-free atmosphere, being able to recognize their own imminent end but also being recognized by others for their individual, symbolic, and traditional values.

The hospice concept as outlined is a small step in the direction of offering a different kind of care for the terminally ill and dying patient and, if successfully implemented in the Rhode Island area, could serve as a prototype of care.

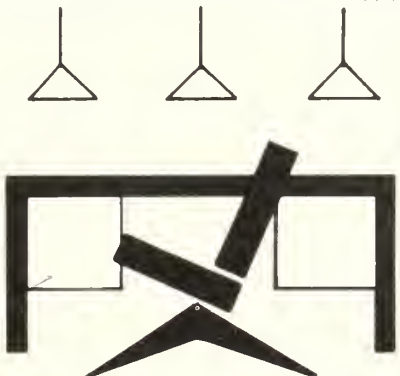
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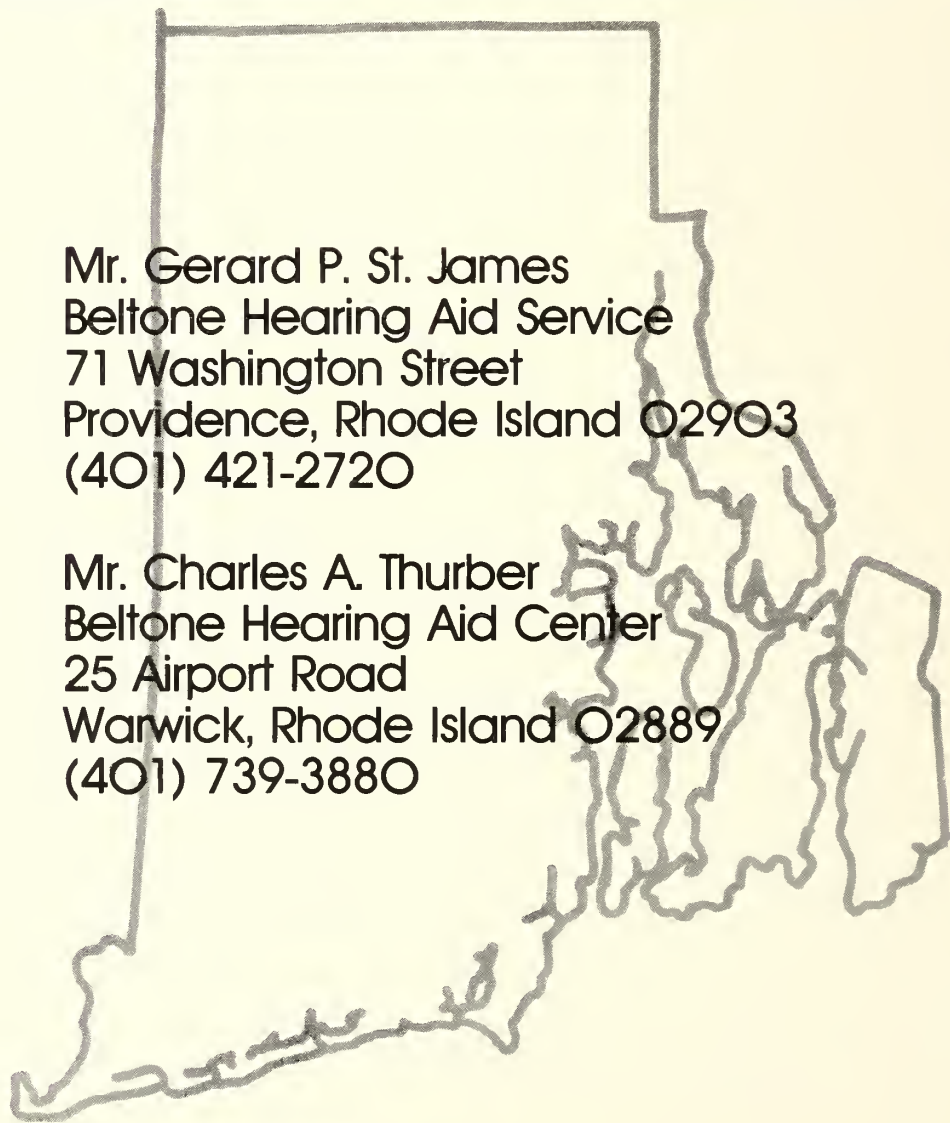
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secondary infection in the chronic dermatoses, it should be borne in mind that the skin is more liable to become sensitized to many substances, including neomycin. The manifestation of sensitization to neomycin is usually a low grade reddening with swelling, dry scaling and itching; it may be manifest simply as failure to heal. During long-term use of neomycin-containing products, periodic examination for such signs is advisable and the patient should be told to discontinue the product if they are observed. These symptoms regress quickly on withdrawing the medication. Neomycin-containing applications should be avoided for that patient thereafter.

PRECAUTIONS: As with other antibacterial preparations, prolonged use may result in overgrowth of nonsusceptible organisms, including fungi. Appropriate measures should be taken if this occurs.

ADVERSE REACTIONS: Neomycin is a not uncommon cutaneous sensitizer. Articles in the current literature indicate an increase in the prevalence of persons allergic to neomycin. Ototoxicity and nephrotoxicity have been reported (see Warning section).

Complete literature available on request from Professional Services Dept. PML.

American Medicine: Strengths and Weaknesses

"...that our patients may die young — as late as possible"

By Jean Mayer, PhD

Very soon now you will be making the healer's ancient commitment to "care of the sick, promotion of health, and the service of humanity." That is an awesome responsibility. Your training here and your experience to come as interns and residents will equip you very well to meet part of it — but only a part.

In many ways the health system you are entering is superb. As medical students, you were selected with meticulous care. When I was Master of an undergraduate college at Harvard, I spent long hours with my colleagues selecting our best candidates, writing letters of recommendation, meeting with deans and admission officers. As a professor of nutrition and now as President of Tufts, I know that the process is equally exhaustive at the other end.

There is as much perfectionism in the medical curriculum (although, as you will see, I should like to see it evolve in some directions). Your training as interns and residents in our large academic hospitals will be no less good.

Read at the Brown University Medical School Commencement, June 5, 1978.

JEAN MAYER, PhD, is President of Tufts University, Medford, Massachusetts.

You will work very hard, and you will be supervised by fine teachers. You will be part of the dedication, organization, and scientific perfectionism that go into the care of the very sick. You will also, incidentally, be part of the gigantic systems of hospitals that has helped create our massive escalation in health costs. Only now, after so many years, are we trying to organize existing facilities in a rational way — to avoid duplication of services while maintaining a high quality of health care.

Our medical research is the finest in the world. Essentially all the American Nobel Prizes in medicine have been awarded for work that was funded by the National Institutes of Health. Interestingly, basic medical research is the only government-funded enterprise in which the direct beneficiaries, the research scientists, have the dominant voice in the way monies are spent. It is also the only field in which, each year for twenty years, Congress appropriated more money than the President requested.

It is easy to be enthusiastic about all this care of the sick. But from the viewpoint of the promotion of health it is not obvious that the system works. Certainly it does not work any better than alternative systems in industrial nations which do not have such a costly, perfectionist medical establishment. There are

many other measures of health than lifespan, but few are as useful for international comparisons. By that criterion we are behind many European countries and Japan. Health services in Italy, for example, are a frequent object of scorn in our press and even among some experts. Their organization is chaotic, the selection of medical students seems largely based on family income, training is book-based, and research is extraordinarily weak. Yet Italian life expectancy compares favorably with our own. How do we explain all this?

Prevention More Important Than Cure

An important part of the answer is that the health of individuals and of populations and their life expectancy are not primarily determined by the size and quality of their medical care system, but rather by the characteristics of their environment and by their mode of life. Prevention, as we are increasingly aware, is more important than cure.

Leprosy, influenza, tuberculosis, streptococcal infections — all these, once killers on a large scale — have ceased to be major causes of death. And their incidence declined before the development of any rational medical treatment. General diet, environmental, and health conditions were more important than medicine.

Rickets, pellagra, goiter, xerophthalmia, beriberi — we know today that these diseases are caused not by infection, as was once supposed, but by nutritional deficiencies. There is very good evidence that diet plays a major role in the etiology of diabetes, hypertension, and coronary artery disease. There is accumulating evidence that it is instrumental in the development of some cancers, particularly of the breast and colon. It certainly is the primary factor in our national epidemic of obesity. And there is no question but that most cases of lung cancer are caused by environmental pollution, particularly the self-administered form due to cigarette smoking. These are aspects of health care with which our medical system should be concerned, but the concern is very late in coming. The degenerative diseases I have just named are much easier to prevent than to cure. Yet it is a rare school of medicine that has more than a few courses in nutrition — and elective ones, at that.

New Emphasis in Medical Education

Up to now, training of physicians has concentrated on crisis management and curative medicine. I should like to see our medical schools put considerably more emphasis on the study of those factors, including sociological factors, which are essential determinants in the causation of diseases, so that preventive medicine can acquire the status it deserves and the backing it needs from the medical profession.

We need to teach managerial skills, which are essential if a rational organization of medical care, including the full use of paramedical personnel, is going to be achieved.

And we need much greater training in statistics and epidemiology so that physicians can understand and conduct the type of studies which are essential if we are to have rational therapies. This research usually give us the first hints as to possible "causes" of diseases and description of their natural history. Only then can preventive programs be established.

Epidemiological investigations are also the only tools we have to judge the effectiveness of treatment. So much so that they are not only essential tools of science, but indispensable means of government. A number of expensive procedures which drained family and national resources for years would have been much more rapidly abandoned had proper evaluative techniques based on biostatistics and epidemiology been used. Gastric freezing for peptic ulcer, colectomy for epilepsy, oxygen for premature infants, bilateral hypogastric artery ligation for pelvic hemorrhage, renal-capsule stripping for acute renal failure, sympathectomy for asthma, internal-mammary ligation for coronary artery disease, the "button" operation for ascites, adrenalectomy for essential hypertension, complete dental extraction for a variety of complaints thought to be the result of focal sepsis, lobotomy for many mental disorders, and wiring for aortic aneurysm never would have lasted so long, had they been subjected to careful statistical research. The number of tonsillectomies would have been reduced by 90 per cent long ago, and that of hysterectomies by a sizeable percentage as well. Cancer recurrence rates indicate that radical mastectomy offers no advantage for many patients.

Nor are surgical interventions the only examples of poorly-researched benefits. Treat-

ment of an excessive number of acute diseases in intensive care units has persisted in spite of the evidence that in many cases it was unnecessary and unnecessarily expensive. Oral hypoglycemic agents are still defended by some physicians and drug firms because they are unused to and refuse to accept the incontrovertible evidence of epidemiological research which shows that they are not only unnecessary but dangerous. And tens of thousands of coronary bypasses are done every year, at a cost approaching or surpassing the half billion mark, without a test of the effectiveness of the procedure. Imagine the reception accorded to the suggestion that an untested drug be used under such conditions!

Proliferation of Pharmaceuticals

Then there are the drugs — an indispensable part of a physician's armamentarium. Yet here again, there is a deplorable lack of planning, even of thinking, about national priorities. I do not pretend to have all or even many answers to the questions I am going to ask, organizational as well as ethical. But here, for a start, are some queries.

Should we have the proliferation of ethical drugs that we have — as many as 10,000 in this country — or should we adopt the policy of France of allowing only new drugs which are more effective, or as effective as and much cheaper than the ones we now have, and phase out the old ones as the new ones are phased in?

Should we encourage pharmaceutical companies to concentrate in a few fields of excellence, through exemption from anti-trust action and treating them like regulated monopolies, or should we continue, in the name of free competition, to push them to cover more and more territory, even if it is with "me-too" compounds?

Should we devise a method of tax-based reimbursement for the development and manufacture of drugs which we must have, such as rabies vaccine, which are used far too infrequently to be considered reasonable commercial preparations?

Should we have an entirely different system of distribution for ethical drugs prescribed for long periods — for example, antihypertensive, antipregnancy, and antimalarial drugs — from the system used for over-the-counter drugs or those required on an emergency or short-term basis?

The pharmaceutical industry has received frequent, and occasionally justified, criticism about its treatment of experimental animals, its use of clinic patients, and more recently its use of employees, prisoners, and mental patients for the testing of drugs. When is "informed consent" really free? How informed should it be? Is it legitimate to conduct human experiments solely for the purpose of marketing a drug which has no significant advantages over existing methods of treatment? How great should the expectation of significant advantages be?

And what about over-the-counter drugs? We have between 100,000 and 500,000 such preparations. Is this excessive — not to say ridiculous? Almost by definition, if over-the-counter drugs are weak, they are not efficacious. If they are strong, they are dangerous. Should they be largely eliminated? And what of the reasoning, "Yes, this drug is weak and hardly useful, but if it were not available we would be forced to prescribe more potent drugs and we would have a further increase in the already-excessive number of drug misuse admissions."?

These are not just medical concerns. They are problems of public policy. The nation is involved in a long debate on the mode of payment for medical care, but little consideration has been given to the fact that health is something you nurture as well as (occasionally) buy. No support has been given to this all-important aspect. Outside of proclaiming that everybody should be entitled to receive medical care, little attention has been paid to what sort of care, to achieve what end, and with what limitations.

Questions for the Future

Do we, as a society, want to place strong emphasis on prolonging life for the elderly rather than, say, on expanding medical and dental services for the young? In the long run everyone will die, so that protection from death at any age is hardly the slogan for a successful policy. How much will we put into preventive medicine? Into dental health? Into ophthalmology? Into crash programs against various diseases? Even in our America resources are not unlimited. At present we are putting about 8 per cent of our gross national product into health. Personally, I cannot think of a better way to spend it — provided it is

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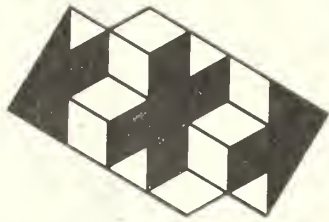
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Editorials

Cost Containment and Ancillary Services

We have written on a number of occasions in these columns concerning the necessity of involvement of the academic community in the education of medical students, residents, medical staff, and themselves about the importance of cost-effectiveness. Hitherto there has been a sort of studied disdain for such concerns in academic quarters, which is now less fashionable and indeed can no longer be justified.

An encouraging development has been the announcement by the College of American Pathologists (CAP) of a joint voluntary effort together with the AMA, the American Hospital Association, and the Federation of American Hospitals (the proprietary branch) to address the problem.

It envisions the establishment of state and local cost containment committees. These committees will have four objectives:

1. Encouragement of pre-admission testing.
2. Establishment of hospital committees each with a hospital pathologist as a member to review all standing orders for admission

laboratory procedures as well as standing daily orders for inpatient laboratory services.

3. Continuing Medical Education programs in all hospitals to indoctrinate the medical staffs in the proper use of laboratory services, and medical audits directed to reviews or ordering patterns.

4. Education to promote awareness among medical staffs of the charges generated by ordering commonly performed procedures, including laboratory services.

The Board of Governors of the CAP emphasized that resident training programs should encompass the overall concept of the cost of medical care, and young physicians should be taught not only the proper use of laboratory tests, but also "the resultant charges".

Here is an opportunity for the hospitals of Rhode Island and the Brown University Program in Medicine to be in the vanguard in this important endeavor and to set an example which other areas of the country can emulate.

Pediatrics, Medicine, and the Educational Process

Elsewhere in this issue of the *Journal*¹ there appears a paper based on a presentation made by the Commissioner of Education of the State of Rhode Island on the occasion of his having been the Summer Visiting Professor in the Department of Pediatrics in July of this past year. One might well ask, Why do pediatricians and educators have any interests at all to share in common? Although the answers to this may stem from a mutually stated interest in the welfare of children, the expressions of such interests are by no means simple and represent a complex set of

relationships that of themselves have a structure independent of the desired goals of both groups to ultimately effect the health, welfare, and status of future generations.

It is not simply that our governmental system is organized along such lines (witness the existence of a total division of government designated as health, education, and welfare). Indeed in everyday practice the pediatrician and the educator come in contact, albeit, with different ends of the same problem in dealing with the child in whom educational disadvantages may either result

from illness in the first place or in whom apparent illness may indeed be an expression of educational problems that have arisen as a primary cause. From the point of view of the physician there is moreover increasing alarm and concern that relatively easy access to medical information, much of it oversimplified and, therefore, bordering on becoming erroneous, has led to increasing involvement and demands on the part of many non-professionals in medical matters amongst whom teachers are an excellent example. They not only urge but often demand that physicians perform tasks or interventions that are of themselves not only unrealistic, but unlikely to be productive. An excellent example of this phenomenon occurs in the often inappropriate but nevertheless strident insistence from a teacher to a pediatrician often through a parent that a pill be given to a child in order to assure better behavior in school.

On the other side of the coin physicians have often not been sufficiently involved either in their training programs or in their day-to-day practices in the problems that beset children in schools and in school systems. Despite this, it is surprising how often the physician is sought as a source of primary advice (this is particularly true in pediatric practice) in matters relating to education, educational performance, and educational futures and perspectives.

Doctor Schmidt's emphasis on the politics of organized cooperation between professional groups is well worth the readers' attention. The very fact of the existence of such cooperative attempts may lead to a set of rules and administrative passages which, even though they may initially spring from well-motivated desires, will often tend, unless they are either well-managed or controlled, to overshadow the original purposes for which such cooperative efforts were intended and thereby become self-sustaining bureaucratic organizations on their own that have lost sight of the initial goals for which either or both may have originally been established. Physicians who become readily and perhaps justifiably alarmed at the increasing demands of administrative paper work that seem to come day by day from a variety of medical and nonmedical sources understand this problem only too well, but often feel equally

frustrated together with other professionals at the existence of such systems and their invariably overburdening demands, which seem not only to be unreasonable but indeed of very little productive benefit to either the physician, his patient, or indeed the educator as well. The recent concern expressed over the lack of effectiveness of child welfare services at the state level is an additional example of a sphere in which our structures have become so complex that they seem to have an existence solely for their purposes and not for the original purposes for which they may have been established.

Doctor Schmidt's exposure of the problem is not only perceptive, but filled with humor and understanding. Lest we become overwhelmed by such forces, it is important that we not only pay attention to them, but by understanding the fact that they do exist we will all be in a better position to organize the kind of counter measures that are necessary if multidisciplinary approaches towards the care of children are indeed to be, not only effective, but productive of the results that all so earnestly desire.

Leo Stern, MD
Pediatrician-in-Chief
Rhode Island Hospital
Professor and Chairman of Pediatrics
Brown University

Reference

¹Schmidt TC: Pediatric medicine and education: redefining roles in support of the child. *RI Med J* 62(2):47-54, Feb 79

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Contraindications: Further use in anuria, progressive renal or hepatic dysfunction, hyperkalemia. Pre-existing elevated serum potassium. Hypersensitivity to either component or other sulfonamide-derived drugs.

Warnings: Do not use potassium supplements, dietary or otherwise, unless hypokalemia develops or dietary intake of potassium is markedly impaired. If supplementary potassium is needed, potassium tablets should not be used. Hyperkalemia can occur, and has been associated with cardiac irregularities. It is more likely in the severely ill, with urine volume less than one liter/day, the elderly and diabetics with suspected or confirmed renal insufficiency. Periodically, serum K⁺ levels should be determined. If hyperkalemia develops, substitute a thiazide alone, restrict K⁺ intake. **Associated widened QRS complex or arrhythmia requires prompt additional therapy.** Thiazides cross the placental barrier and appear in cord blood. Use in pregnancy requires weighing anticipated benefits against possible hazards, including fetal or neonatal jaundice, thrombocytopenia, other adverse reactions seen in adults. Thiazides appear and triamterene may appear in breast milk. If their use is essential, the patient should stop nursing. Adequate information on use in children is not available.

Precautions: Do periodic serum electrolyte determinations (particularly important in patients vomiting excessively or receiving parenteral fluids). Periodic BUN and serum creatinine determinations should be made, especially in the elderly, diabetics or those with suspected or confirmed renal insufficiency. Watch for signs of impending coma in severe liver disease. If spiro-lactone is used concomitantly, determine serum K⁺ frequently; both can cause K⁺ retention and elevated serum K⁺. Two deaths have been reported with such concomitant therapy (in one, recommended dosage was exceeded, in the other serum electrolytes were not properly monitored). Observe regularly for possible blood dyscrasias, liver damage, other idiosyncratic reactions. Blood dyscrasias have been reported in patients receiving triamterene, and leukopenia, thrombocytopenia, agranulocytosis, and aplastic anemia have been reported with thiazides. Triamterene is a weak folic acid antagonist. Do periodic blood studies in cirrhotics with splenomegaly. Antihypertensive effect may be enhanced in post-sympathectomy patients. Use cautiously in surgical patients. The following may occur: transient elevated BUN or creatinine or both, hyperglycemia and glycosuria (diabetic insulin requirements may be altered), hyperuricemia and gout, digitalis intoxication (in hypokalemia), decreasing alkali reserve with possible metabolic acidosis. 'Dyazide' interferes with fluorescent measurement of quinidine.

Adverse Reactions: Muscle cramps, weakness, dizziness, headache, dry mouth, anaphylaxis, rash, urticaria, photosensitivity, purpura, other dermatological conditions, nausea and vomiting, diarrhea, constipation, other gastrointestinal disturbances. Necrotizing vasculitis, paresthesias, icterus, pancreatitis, xanthopsia and, rarely, allergic pneumonitis have occurred with thiazides alone.

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. . . Bentyl produced definite relaxation in 8 of 10 patients. The sodium chloride produced relaxation in only 3 of 10. No side effects occurred in either group of patients.



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*This drug has been classified "probably" effective in treating certain functional G.I. disorders.

†See Warnings, Precautions and Adverse Reactions.

See following page for prescribing information.

Reference:

King, J.C. and Starkman, N.M.: Evaluation of an antispasmodic. Double-blind evaluation to control gastrointestinal spasms occurring during radiographic examination. A preliminary report. Western Med 5:350-358, 1964

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Brief Summary INDICATIONS

For use as adjunctive therapy in the treatment of peptic ulcer IT SHOULD BE NOTED AT THIS POINT IN TIME THAT THERE IS A LACK OF CONCURRENCE AS TO THE VALUE OF ANTICHOLINERGIC/ANTISPASMODICS IN THE TREATMENT OF GASTRIC ULCER. IT HAS NOT BEEN SHOWN CONCLUSIVELY WHETHER ANTICHOLINERGIC/ANTISPASMODIC DRUGS AID IN THE HEALING OF A PEPTIC ULCER, DECREASE THE RATE OF RECURRENCES, OR PREVENT COMPLICATION.

Based on a review of this drug by the National Academy of Sciences—National Research Council and/or other information, FDA has classified the following indications as "probably" effective:

May also be useful in the irritable bowel syndrome (irritable colon, spastic colon, mucous colitis, acute enterocolitis, and functional gastrointestinal disorders), and in neurogenic bowel disturbances (including the splenic flexure syndrome and neurogenic colon).

THESE FUNCTIONAL DISORDERS ARE OFTEN RELIEVED BY VARYING COMBINATIONS OF SEDATIVE, REASSURANCE, PHYSICIAN INTEREST, AMELIORATION OF ENVIRONMENTAL FACTORS.

For use in the treatment of infant colic (syrup)

Final classification of the less-than-effective indications requires further investigation.

CONTRAINDICATIONS: Obstructive uropathy (for example, bladder neck obstruction due to prostatic hypertrophy); obstructive disease of the gastrointestinal tract (as in achalasia, pyloroduodenal stenosis), paralytic ileus, intestinal atony of the elderly or debilitated patient, unstable cardiovascular status in acute hemorrhage; severe ulcerative colitis, toxic megacolon complicating ulcerative colitis, myasthenia gravis. **WARNINGS:** In the presence of a high environmental temperature, heat prostration can occur with drug use (fever and heat stroke due to decreased sweating). Diarrhea may be an early symptom of incomplete intestinal obstruction, especially in patients with ileostomy or colostomy. In this instance treatment with this drug would be inappropriate and possibly harmful. Bentyl may produce drowsiness or blurred vision. In this event, the patient should be warned not to engage in activities requiring mental alertness such as operating a motor vehicle or other machinery or perform hazardous work while taking this drug. **PRECAUTIONS:** Although studies have failed to demonstrate adverse effects of dicyclomine hydrochloride in glaucoma or in patients with prostatic hypertrophy, it should be prescribed with caution in patients known to have or suspected of having glaucoma or prostatic hypertrophy. Use with caution in patients with autonomic neuropathy, hepatic or renal disease, ulcerative colitis—Large doses may suppress intestinal motility to the point of producing a paralytic ileus and the use of this drug may precipitate or aggravate the serious complication of toxic megacolon, hyperthyroidism, coronary heart disease, congestive heart failure, cardiac arrhythmias, and hypertension, hiatal hernia associated with reflux esophagitis since anticholinergic drugs may aggravate this condition.

It should be noted that the use of anticholinergic/antispasmodic drugs in the treatment of gastric ulcer may produce a delay in gastric emptying time and may complicate such therapy (antral stasis). Do not rely on the use of the drug in the presence of complication of biliary tract disease. Investigate any tachycardia before giving anticholinergic (atropine-like) drugs since they may increase the heart rate. With overdosage, a curare-like action may occur. **ADVERSE REACTIONS:** Anticholinergics/antispasmodics produce certain effects which may be physiologic or toxic depending upon the individual patient's response. The physician must delineate these adverse reactions may include xerostomia, urinary hesitancy and retention, blurred vision and tachycardia; palpitations; mydriasis, cycloplegia, increased ocular tension, loss of taste, headache, nervousness; drowsiness, weakness; dizziness, insomnia, nausea, vomiting; impotence; suppression of lactation, constipation, bloated feeling, severe allergic reaction or drug idiosyncrasies including anaphylaxis, urticaria and other dermal manifestations, some degree of mental confusion and/or excitement, especially in elderly persons; and decreased sweating. With the injectable form there may be a temporary sensation of lightheadedness and occasionally local irritation. **DOSAGE AND ADMINISTRATION:** Dosage must be adjusted to individual patient's needs.

Usual Dosage: Bentyl 10 mg capsule and syrup. Adults: 1 or 2 capsules or teaspoonfuls syrup three or four times daily. Children: 1 capsule or teaspoonful syrup three or four times daily. Infants: ½ teaspoonful syrup three or four times daily. (May be diluted with equal volume of water.) Bentyl 20 mg. Adults: 1 tablet three or four times daily. Bentyl Injection: Adults: 2 ml. (20 mg.) every four to six hours intramuscularly only. NOT FOR INTRAVENOUS USE. **MANAGEMENT OF OVERDOSE:** The signs and symptoms of overdose are headache, nausea, vomiting, blurred vision, dilated pupils, hot, dry skin, dizziness, dryness of the mouth, difficulty in swallowing, CNS stimulation. Treatment should consist of gastric lavage, emetics, and activated charcoal. Barbiturates may be used either orally or intramuscularly for sedation but they should not be used if Bentyl with Phenobarbital has been ingested. If indicated, parenteral cholinergic agents such as Urecholine® (bethanechol chloride USP) should be used.

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RHODE ISLAND MEDICAL JOURNAL

Editor's Mailbox

Home Health Aide Services

I read with interest the paper titled "Child Abuse and Neglect Update" by John O'Shea in the October, 1978 issue of the *Rhode Island Medical Journal*, and should like to suggest that the epidemiology of child abuse or neglect is not solely in the province of the nuclear family involved and that multiple agency involvement may contribute to the destruction of family integrity, as is pointed out in Sheldon and Eleanor Gluck's *500 Delinquents and 500 Non-Delinquents*.

Our program of maternal and child health nursing has been seriously underfunded, but among our priority high risk families are those we share with PSU and often with Rhode Island Hospital. The emphasis of public health nursing is to work with the family to identify health problems (physical, environmental, psychological, socio-economic) within the context of the home environment; and from the perspective of the realities of the family surroundings and resources to link that family with needed help.

We are aware that we have no funds adequate to provide home health aide service to the young family. Most mothers of newborn infants need help in the home. We

discharge post-partum mothers in 3 days — before the establishment of milk supply, while the episiotomy is still sore, the cord is still attached, and with a myriad of questions to be answered about feeding, schedule, and crying. No physician, no social worker, and no public health nurse can do the laundry, the shopping, the cooking, and the cleaning, and care for the other siblings. Home health aide services should be added to public health nursing services and included in the suggested study. Even two hours three times a week could make a difference and could get most babies off to a good start. More serious problems might require longer periods of time in order for the aide to serve as a role model.

Something this simple and inexpensive should be attempted, and, I agree, measured. The alternative is so dreary. We keep trying to solve our societal problems by funding teams of middle class "health" workers and end up, over and over again, institutionalizing the problem. I hope we don't do this with child abuse.

Jane A. Mackenzie, RN, MPH
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Case 1 — A 50 year old male with painful hemorrhagic vesicles on the ulnar aspect of the palm and on the last two fingers.



Case 2 — A 50 year old female with a large painful crusted group of vesicles on the side of the index finger; some small vesicles adjacent.

(Answers on Page 72)



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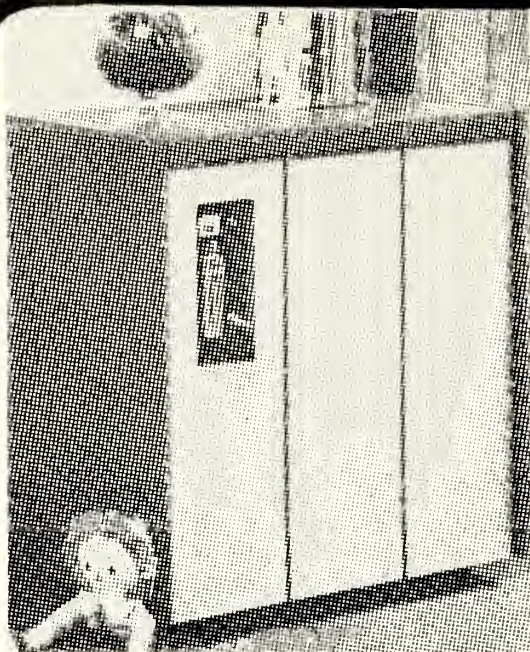
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ANSWERS TO DERMAQUIZ

Case 1 — Typical herpes zoster with lesions in segmental distribution along the course of the peripheral nerve.

Case 2 — Primary herpes simplex. In contrast to recurrent herpes simplex, the primary infection of the finger characteristically is painful. This type of cutaneous viral infection does not show the linear distribution observed with herpes zoster.

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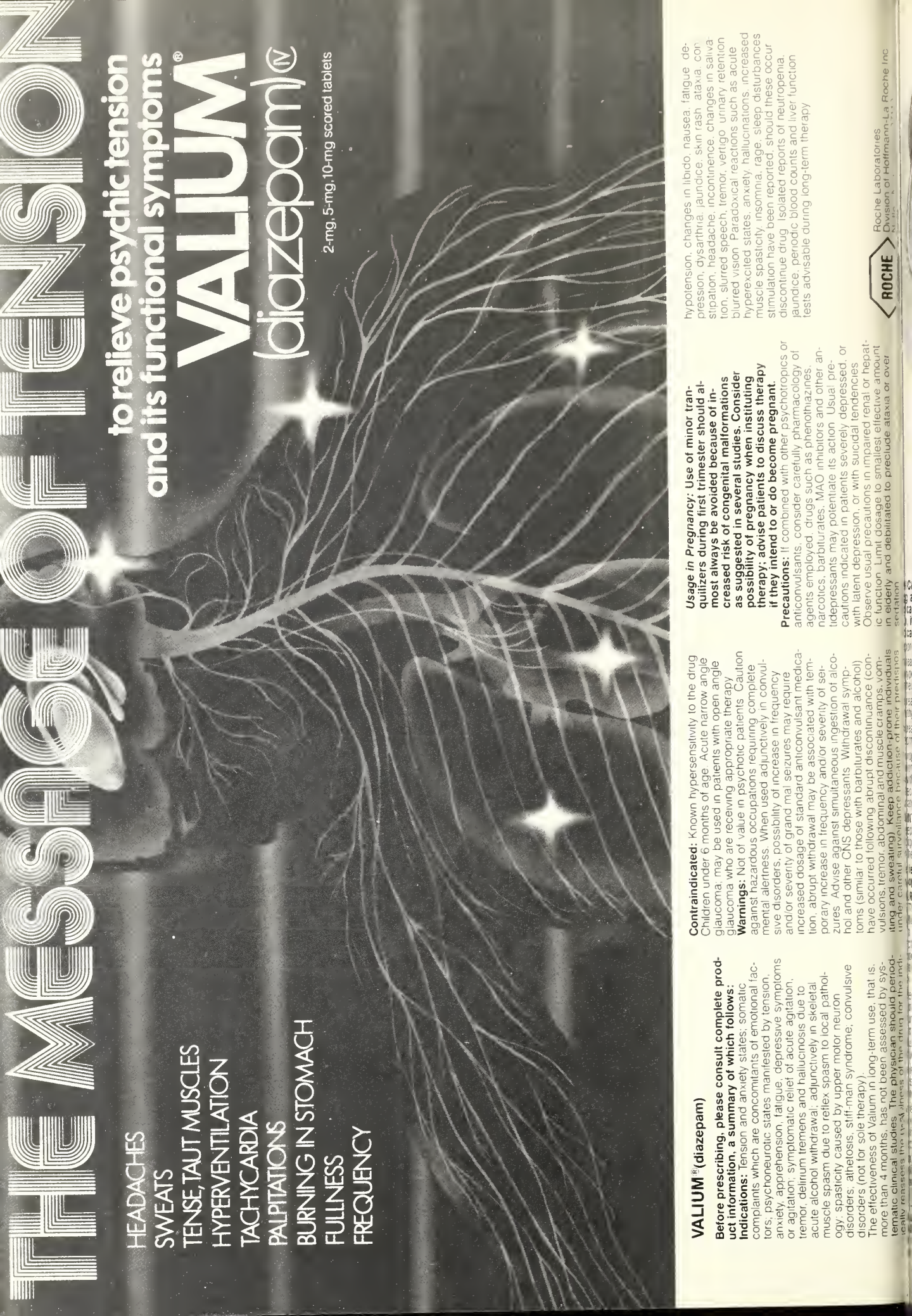
Rhode Island Medical Journal

March, 1979

Vol. 62 No. 3



See President's Message



THE MESSAGE OF TENSION

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Indications: Tension and anxiety states; somatic complaints which are concomitants of emotional factors; psychoneurotic states manifested by tension, anxiety, apprehension, fatigue, depressive symptoms or agitation; symptomatic relief of acute agitation, tremor, delirium tremens and hallucinosis due to acute alcohol withdrawal; adjunctively in skeletal muscle spasm due to reflex spasm to local pathology; spasticity caused by upper motor neuron disorders; ataxic, stiff-man syndrome, convulsive disorders (not for sole therapy).

The effectiveness of Valium in long-term use, that is, more than 4 months, has not been assessed by systematic clinical studies. The physician should be particularly reassured that Valium is effective for the treatment of tension and anxiety states.

Contraindicated: Known hypersensitivity to the drug. Children under 6 months of age. Acute narrow angle glaucoma. May be used in patients with open angle glaucoma who are receiving appropriate therapy.

Warnings: Not of value in psychotic patients. Caution against hazardous occupations requiring complete mental alertness. When used adjunctively in convulsive disorders, possibility of increase in frequency and/or severity of grand mal seizures may require increased dosage of standard anticonvulsant medication. Abrupt withdrawal may be associated with temporary increase in frequency and/or severity of seizures. Advise against simultaneous ingestion of alcohol and other CNS depressants. Withdrawal symptoms (similar to those with barbiturates and alcohol) have occurred following abrupt discontinuance (convulsions, tremor, abdominal and muscle cramps, vomiting, sweating). Keep addiction-prone individuals under careful surveillance because of their predisposition to abuse.

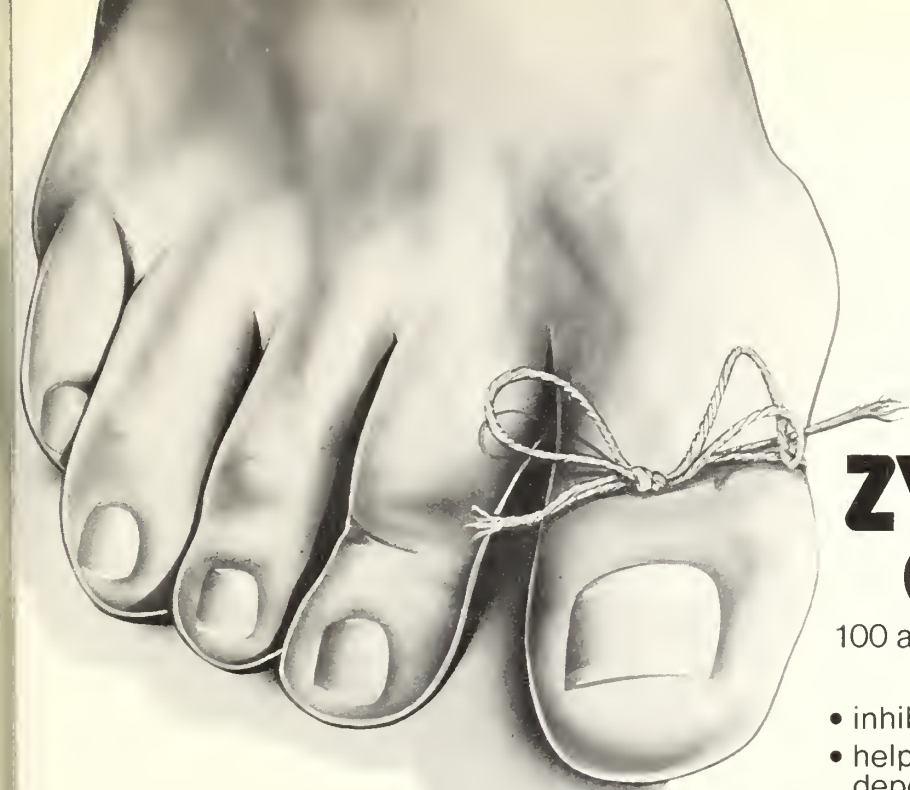
Use in Pregnancy: Use of minor tranquilizers during first trimester should always be avoided because of increased risk of congenital malformations as suggested in several studies. Consider possibility of pregnancy when instituting therapy; advise patients to discuss therapy if they intend to or do become pregnant.

Precautions: If combined with other psychotropics or anticonvulsants, consider carefully pharmacology of agents employed, drugs such as phenothiazines, narcotics, barbiturates, MAO inhibitors and other antidepressants may potentiate its action. Usual precautions indicated in patients severely depressed, or with latent depression, or with suicidal tendencies. Observe usual precautions in impaired renal or hepatic function. Limit dosage to smallest effective amount in elderly and debilitated to preclude ataxia or oversedation.

hypotension, changes in libido, nausea, fatigue, depression, dysarthria, jaundice, skin rash, ataxia, constipation, headache, incontinence, changes in saliva, slurred speech, tremor, vertigo, urinary retention, blurred vision. Paradoxical reactions such as acute hyperexcited states, anxiety, hallucinations, increased muscle spasticity, insomnia, rage, sleep disturbances stimulation have been reported, should these occur discontinue drug. Isolated reports of neurotoxicity, jaundice, periodic blood counts and liver function tests advisable during long-term therapy.



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Zyloprim[®] (allopurinol) is intended for:

• treatment of gout, either primary, or secondary to the hyperuricemia associated with blood dyscrasias and their therapy;

• treatment of primary or secondary uric acid nephropathy, with or without accompanying symptoms of gout; treatment of patients with recurrent uric acid stone formation;

• prophylactic treatment to prevent tissue urate deposition, renal calculi, or uric acid nephropathy in patients with leukemias, lymphomas and malignancies who are receiving cancer chemotherapy with its resultant elevating effect on serum uric acid levels.

CONTRAINDICATIONS: Use in children with the exception of those with hyperuricemia secondary to malignancy. The drug should not be employed in nursing mothers.

Patients who have developed a severe reaction to Zyloprim should not be restarted on the drug.

WARNINGS: ZYLOPRIM SHOULD BE DISCONTINUED AT THE FIRST APPEARANCE OF SKIN RASH OR ANY TYPE OF ADVERSE REACTION. In some instances a skin rash may be followed by more severe hypersensitivity reactions such as exfoliative, urticarial and purpuric lesions as well as Stevens-Johnson syndrome (erythema multiforme) and very rarely a generalized vasculitis which may lead to irreversible hepatotoxicity and death.

In cases of reversible clinical hepatotoxicity have been noted and in some patients asymptomatic rises in serum alkaline phosphatase or serum transaminase have been observed. Accordingly, periodic liver function tests should be performed during the early stages of therapy, particularly in patients with pre-existing liver disease. Patients should be alerted to the need for due precaution when engaging in activities where alertness is mandatory.

Nevertheless, iron salts should not be given simultaneously with Zyloprim. This drug should not be administered to immediate relatives of patients with idiopathic hemochromatosis.

In patients receiving Purinethol[®] (mercaptopurine) or Imuran[®] (azathioprine), the concomitant administration of 300-600 mg of Zyloprim per day requires a reduction in dose to approximately one-third to one-fourth of the usual dose of mercaptopurine or azathioprine. Subsequent adjustment of doses of Purinethol or Imuran should be made on the basis of therapeutic response and any side effects.

Usage in Pregnancy and Women of Childbearing Age. Zyloprim[®] (allopurinol) should be used in pregnant women or women of childbearing age only if the potential benefits to the patient are weighed against the possible risk to the fetus.

PRECAUTIONS: Some investigators have reported an increase in acute attacks of gout during the early stages of allopurinol administration, even when normal or sub-normal serum uric acid levels have been attained.

It has been reported that allopurinol prolongs the half-life of the anticoagulant, dicumarol. This interaction should be kept in mind when allopurinol is given to patients already on anticoagulant therapy, and the coagulation time should be reassessed.

A fluid intake sufficient to yield a daily urinary output of at least 2 liters and the maintenance of a neutral or, preferably, slightly alkaline urine are desirable to (1) avoid the theoretic possibility of formation of xanthine calculi under the influence of Zyloprim therapy and (2) help prevent renal precipitation of urates in patients receiving concomitant uricosuric agents.

Patients with impaired renal function require less drug and should be carefully observed during the early stages of Zyloprim administration and the drug withdrawn if increased abnormalities in renal function appear.

In patients with severely impaired renal function, or decreased urate clearance, the half-life of oxipurinol in the plasma is greatly prolonged. Therefore, a dose of 100 mg per day or 300 mg twice a week, or perhaps less, may be sufficient to maintain adequate xanthine oxidase inhibition to reduce serum urate levels. Such patients should be treated with the lowest effective dose, in order to minimize side effects.

Mild reticulocytosis has appeared in some patients.

As with all new agents, periodic determination of liver and kidney function and complete blood counts should be performed especially during the first few months of therapy.

ADVERSE REACTIONS:

Dermatologic. Because in some instances skin rash has been followed by severe hypersensitivity reactions, it is recommended that therapy be discontinued at the first sign of rash or other adverse reaction (see WARNINGS). Skin rash, usually maculopapular, is the adverse reaction most commonly reported. Exfoliative, urticarial and purpuric lesions, Stevens-Johnson syndrome (erythema multiforme) and toxic epidermal necrolysis have also been reported.

A few cases of alopecia with and without accompanying dermatitis have been reported.

In some patients with a rash, restarting Zyloprim (allopurinol) therapy at lower doses has been accomplished without untoward incident.

Gastrointestinal. Nausea, vomiting, diarrhea, and intermittent abdominal pain have been reported.

Vascular: There have been rare instances of a generalized hypersensitivity vasculitis or necrotizing angitis which have led to irreversible hepatotoxicity and death.

Hematopoietic: Agranulocytosis, anemia, aplastic anemia, bone marrow depression, leukopenia, pancytopenia and thrombocytopenia have been reported in patients, most of whom received concomitant drugs with potential for causing these reactions. Zyloprim[®] (allopurinol) has been neither implicated nor excluded as a cause of these reactions.

Neurologic. There have been a few reports of peripheral neuritis occurring while patients were taking Zyloprim. Drowsiness has also been reported in a few patients.

Ophthalmic: There have been a few reports of cataracts found in patients receiving Zyloprim. It is not known if the cataracts predated the Zyloprim therapy. "Toxic" cataracts were reported in one patient who also received an anti-inflammatory agent, again, the time of onset is unknown. In a group of patients followed by Gutman and Yu for up to five years on Zyloprim therapy, no evidence of ophthalmologic effect attributable to Zyloprim was reported.

Drug Idiosyncrasy: Symptoms suggestive of drug idiosyncrasy have been reported in a few patients. This was characterized by fever, chills, leukopenia or leukocytosis, eosinophilia, arthralgias, skin rash, pruritus, nausea and vomiting.

OVERDOSAGE: Massive overdosing, or acute poisoning, by Zyloprim has not been reported.

HOW SUPPLIED: 100 mg (white) scored tablets, bottles of 100 and 1000; 300 mg (peach) scored tablets, bottles of 30, 100 and 500. Unit dose packs for each strength also available.

Complete information available from your local B. W. Co. Representative or from Professional Services Department PML.

U.S. Patent No. 3,624,205 (Use Patent)



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Rhode Island Medical Journal

MARCH, 1979

VOLUME 62, No. 3

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President's Message

To members of the Rhode Island Medical Society:

On the reverse side of this tear-out leaf of your *Rhode Island Medical Journal* is a 3-point pledge, the principles of which have been endorsed by the Council and the House of Delegates at their most recent meetings.

I believe that the display of this pledge in your office will help to maintain and enhance your patients confidence in you.

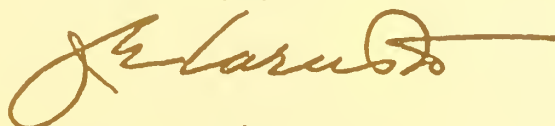
Furthermore, the anticipated cooperation of all members of the Rhode Island Medical Society in displaying the pledge will be a strong bargaining point on legislation which will be introduced in the current legislative session, to require the imparting of such pertinent information and to enforce the requirement by imposition of penalties for not so doing.

It is my sense that the majority of physicians would prefer to establish communications with their patients voluntarily, rather than by law.

The pledge has been designed to fit the standard size frame readily obtainable in many department stores.

Thank you for your cooperation and support.

Sincerely yours,

A handwritten signature in dark ink, appearing to read "J.E. Caruolo", with a stylized flourish extending from the end.

J.E. Caruolo, MD

(turn over)

Rhode Island Medical Society



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BROWN UNIVERSITY

DIVISION OF BIOLOGY AND MEDICINE

Providence, Rhode Island 02912

863-3337

A Message from the Dean

Prospect for Meeting the Financial Needs of Medical Students

For the vast majority of families the financing of a medical student's education becomes an increasingly difficult undertaking. Certainly the amount of money which most universities can commit to scholarship aid, and the amount contributed to scholarship endowment through private gifts, has not kept pace with the rising overall yearly costs of living and tuition. The ability of the medical student to work during odd hours and summer intervals in order to finance his personal education is diminished and can no longer be considered a feasible answer to this problem. Growing numbers of students are obliged to commit themselves to future federal service in order to subsidize their medical training.

It is estimated that today's New England medical student requires in excess of \$11,000 per year to meet his educational and personal expenses. And while he may anticipate an excellent income, this will obviously not materialize for many years. In the interim he is obliged to seek out various extramural loan funds in order to fulfill his financial obligations.

Once his personal funds, university endowments, and budgetary resources are exhausted, the student then applies to the Guaranteed Student Loan Program (GSLP), which is interest-free during his education but bears a 7 per cent interest rate following graduation. The GSLP permits a student to borrow up to \$5,000 per year, to a maximum of \$15,000.

A second source of help is the Federal Health Education Assistance Loan (HEAL) program which, however, provides no sub-

sidized interest deferral provisions and has an effective cost estimated to be 14 per cent per year. This tax-supported program permits loans up to \$10,000 per year to a cumulative limit of \$50,000 per student.

It is becoming increasingly apparent to the private medical schools of New England that there is need to seek out yet other realistic sources of funding for our medical students. Four of the private medical schools of this region (Dartmouth, Tufts, Boston, and Brown) have recently met to explore a program based upon the issuance of tax-exempt bonds.

The features of this contemplated program are as follows:

1. Each school will establish its own application procedure as well as its own criteria for acceptance or rejection of each application.

2. In general, each student will be permitted to borrow that amount of money needed less any state-supported GSLP loan or aid rendered by school or family.

3. It is recommended that the loan bear interest from its inception at a rate equal to the cost of money, the cost of operations, plus a determined reserve for bad debts. The student will not be required to pay this interest during the period of active education. The accumulated interest obligation will be added to the principal.

4. During the four years after graduation (corresponding to the period of graduate medical education) payments in the amount of current accrued interest will be expected.

5. Repayment of the principal will be expected to begin some four years after

graduation and the total loan shall be repayed over a maximum term of fifteen years.

To appreciate the magnitude of monies needed for an operation of this kind, let us assume that each first year medical student (60 in number) at Brown requires a \$5,000 loan. The total first year need is, therefore, \$300,000. Assuming that this need increases by 7 per cent annually and the interest rate is 9 per cent, the following cash reserves will be required:

1979	\$300,000	1981	\$1,047,000
1980	\$648,000	1982	\$1,502,000

If, in addition, we add a new class to this financial aid enterprise each year, the cumulative financial reserves needed are as follows:

1979	\$300,000	1981	\$2,084,000
1980	\$969,999	1982	\$3,732,000

Viewing it as an individual student might and assuming that he borrowed \$5,000 the first year, \$5,350 the second year, \$5,700 the third year, and \$6,100 during his senior year (under the assumption of a 7 per cent rise each year), he will have borrowed \$22,190 and, at the time of the completion of his four years of residency, will owe \$38,740.

While it is repeatedly observed that these large sums of monies are to be viewed in terms of an uninterrupted inflationary decrease in the value of the dollar, the sums are, nevertheless, staggering whether viewed from the vantage point of the individual student or, collectively, as the amount of monies which the government in conjunction with medical schools must make available.

The private medical schools of Massachusetts are now contemplating the sale of tax exempt bonds, with the operation of the loan program to be supervised by the Massachusetts Higher Education Assistance Corporation, a private non-profit group which currently guarantees the GSLP loans made by Massachusetts lenders. Members of the Brown University administration are exploring this system and may either join with their sister schools in Massachusetts or recommend that a similar program be established in the State of Rhode Island.

Stanley M. Aronson, M.D.
Dean of Medicine
Brown University

Tenuate®
(diethylpropion hydrochloride NF)

Tenuate Dospan®
(diethylpropion hydrochloride NF) controlled-release

AVAILABLE ONLY ON PRESCRIPTION

Brief Summary

INDICATION: Tenuate and Tenuate Dospan are indicated in the management of exogenous obesity as a short-term adjunct (a few weeks) in a regimen of weight reduction based on caloric restriction. The limited usefulness of agents of this class should be measured against possible risk factors inherent in their use such as those described below.

CONTRAINDICATIONS: Advanced arteriosclerosis, hyperthyroidism, known hypersensitivity or idiosyncrasy to the sympathomimetic amines, glaucoma. Agitated states. Patients with a history of drug abuse. During or within 14 days following the administration of monoamine oxidase inhibitors, (hypertensive crises may result).

WARNINGS: If tolerance develops, the recommended dose should not be exceeded in an attempt to increase the effect, rather, the drug should be discontinued. Tenuate may impair the ability of the patient to engage in potentially hazardous activities such as operating machinery or driving a motor vehicle, the patient should therefore be cautioned accordingly. **Drug Dependence:** Tenuate has some chemical and pharmacologic similarities to the amphetamines and other related stimulant drugs that have been extensively abused. There have been reports of subjects becoming psychologically dependent on diethylpropion. The possibility of abuse should be kept in mind when evaluating the desirability of including a drug as part of a weight reduction program. Abuse of amphetamines and related drugs may be associated with varying degrees of psychologic dependence and social dysfunction which, in the case of certain drugs, may be severe. There are reports of patients who have increased the dosage to many times that recommended. Abrupt cessation following prolonged high dosage administration results in extreme fatigue and mental depression, changes are also noted on the sleep EEG. Manifestations of chronic intoxication with anorectic drugs include severe dermatoses, marked insomnia, irritability, hyperactivity, and personality changes. The most severe manifestation of chronic intoxications is psychosis, often clinically indistinguishable from schizophrenia. **Use in Pregnancy:** Although rat and human reproductive studies have not indicated adverse effects, the use of Tenuate by women who are pregnant or may become pregnant requires that the potential benefits be weighed against the potential risks. **Use in Children:** Tenuate is not recommended for use in children under 12 years of age.

PRECAUTIONS: Caution is to be exercised in prescribing Tenuate for patients with hypertension or with symptomatic cardiovascular disease, including arrhythmias. Tenuate should not be administered to patients with severe hypertension. Insulin requirements in diabetes mellitus may be altered in association with the use of Tenuate and the concomitant dietary regimen. Tenuate may decrease the hypotensive effect of guanethidine. The least amount feasible should be prescribed or dispensed at one time in order to minimize the possibility of overdosage. Reports suggest that Tenuate may increase convulsions in some epileptics. Therefore, epileptics receiving Tenuate should be carefully monitored. Titration of dose or discontinuance of Tenuate may be necessary.

ADVERSE REACTIONS: **Cardiovascular:** Palpitation, tachycardia, elevation of blood pressure, precordial pain, arrhythmia. One published report described T-wave changes in the ECG of a healthy young male after ingestion of diethylpropion hydrochloride. **Central Nervous System:** Overstimulation, nervousness, restlessness, dizziness, jitteriness, insomnia, anxiety, euphoria, depression, dysphoria, tremor, dyskinesia, mydriasis, drowsiness, malaise, headache, rarely psychotic episodes at recommended doses. In a few epileptics an increase in convulsive episodes has been reported. **Gastrointestinal:** Dryness of the mouth, unpleasant taste, nausea, vomiting, abdominal discomfort, diarrhea, constipation, other gastrointestinal disturbances. **Allergic:** Urticaria, rash, ecchymosis, erythema. **Endocrine:** Impotence, changes in libido, gynecomastia, menstrual upset. **Hematopoietic System:** Bone marrow depression, agranulocytosis, leukopenia. **Miscellaneous:** A variety of miscellaneous adverse reactions has been reported by physicians. These include complaints such as dyspnea, hair loss, muscle pain, dysuria, increased sweating, and polyuria.

DOSAGE AND ADMINISTRATION: Tenuate (diethylpropion hydrochloride) One 25 mg tablet three times daily, one hour before meals, and in mid evening if desired to overcome night hunger. Tenuate Dospan (diethylpropion hydrochloride) controlled-release One 75 mg tablet daily, swallowed whole, in midmorning. Tenuate is not recommended for use in children under 12 years of age.

OVERDOSAGE: Manifestations of acute overdosage include restlessness, tremor, hyperreflexia, rapid respiration, confusion, assaultiveness, hallucinations, panic states. Fatigue and depression usually follow the central stimulation. Cardiovascular effects include arrhythmias, hypertension or hypotension and circulatory collapse. Gastrointestinal symptoms include nausea, vomiting, diarrhea, and abdominal cramps. Overdose of pharmacologically similar compounds has resulted in fatal poisoning, usually terminating in convulsions and coma. Management of acute Tenuate intoxication is largely symptomatic and includes lavage and sedation with a barbiturate. Experience with hemodialysis or peritoneal dialysis is inadequate to permit recommendation in this regard. Intravenous phenolamine (Regitine®) has been suggested on pharmacologic grounds for possible acute, severe hypertension, if this complicates Tenuate overdosage.

Product Information as of April, 1976

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References: 1. Citations available on request - Medical Research Department, MERRELL RESEARCH CENTER, MERRELL-NATIONAL LABORATORIES, Cincinnati, Ohio 45215. 2. Hoekenga, M.T., O'Dillon, R.H., and Leyland, H.M. A Comprehensive Review of Diethylpropion Hydrochloride. International Symposium on Central Mechanisms of Anorectic Drugs, Florence, Italy, Jan. 20-21, 1977.

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**Whether overweight is a
complicating factor...
or just uncomplicated overweight.**

Tenuate[®] Dospan[®] ^{IV} **(diethylpropion hydrochloride NF)** **75 mg. controlled-release tablets**

A useful short-term adjunct in an indicated weight loss program.

Overweight patients in certain diagnostic categories often require strict obesity control. Diethylpropion hydrochloride has been reported useful in obese patients with hypertension, symptomatic cardiovascular disease, or diabetes. While it is not suggested that Tenuate in any way reduces these complications of the overweight, it may have a useful place as a short-term adjunct in a prescribed dietary regimen. (Tenuate should not be administered to patients with severe hypertension; see additional Warnings and Precautions on the opposite page.)

In uncomplicated obesity.

Many patients, on the other hand, present with excess fat but no disease. While this condition is often termed uncomplicated obesity, complications of both a social and a psychologic nature may be distressingly real for the patients. In these cases, a short-term regimen of Tenuate can help reinforce your dietary counsel during the important early weeks of an indicated weight loss program.

Clinical effectiveness.

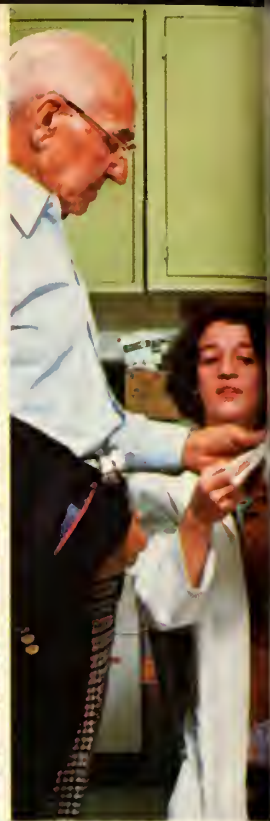
The anorexic effectiveness of diethylpropion hydrochloride is well documented. No less than 16 separate double-blind, placebo-controlled studies attest to its usefulness in daily practice.¹ And the unique chemistry of Tenuate provides "...anorexic potency with minimal overt central nervous system or cardiovascular stimulation."² Compared with the amphetamines, diethylpropion has minimal potential for abuse.

**Tenuate—it makes sense.
And it's responsible medicine.**

Merrell



For prescribing information see opposite page.



The evidence of experience

Since October 1974 when Motrin® (ibuprofen) was introduced in the United States, it has been used by more than 6,000,000 patients with rheumatoid arthritis* or osteoarthritis. Rarely has an ethical pharmaceutical product been prescribed for so many patients in so short a time. In addition, more than 450 studies presenting new data related to Motrin have been published.

The 6,000,000 patients already treated with Motrin is an objective measure of physicians' confidence in the ability of Motrin to relieve the pain and inflammation associated with rheumatoid arthritis and osteoarthritis.

So it is not surprising that in this short period Motrin has become the most frequently prescribed alternative to aspirin. Motrin relieves joint pain and inflammation as effectively as indomethacin or aspirin, but causes significantly fewer CNS and milder GI reactions.

However, gastrointestinal bleeding, sometimes severe, has been associated with Motrin, aspirin, indomethacin, and other nonsteroidal antiarthritic agents.

*The safety and effectiveness of Motrin have not been established in patients with Functional Class IV rheumatoid arthritis (incapacitated, largely or wholly bedridden, or confined to wheelchair; little or no self-care).




Motrin⁴⁰⁰ TABLETS

ibuprofen, Upjohn

The confidence that comes from experience—
one more reason to prescribe Motrin.

Please turn page for a brief summary of prescribing information.

Upjohn

The Upjohn Company, Kalamazoo, Michigan 49001

The confidence that comes from experience—
one more reason to prescribe

Motrin 400 mg TABLETS

ibuprofen, Upjohn

Indications and Usage: Treatment of signs and symptoms of rheumatoid arthritis and osteoarthritis during acute flares and in long-term management. Safety and efficacy have not been established in Functional Class IV rheumatoid arthritis.

Contraindications: Individuals hypersensitive to it, or with the syndrome of nasal polyps, angioedema and bronchospastic reactivity to aspirin or other nonsteroidal anti-inflammatory agents (see WARNINGS).

Warnings: Anaphylactoid reactions have occurred in patients with aspirin hypersensitivity (see CONTRAINDICATIONS).

Peptic ulceration and gastrointestinal bleeding, sometimes severe, have been reported. Ulceration, perforation, and bleeding may end fatally. An association has not been established. Motrin should be given under close supervision to patients with a history of upper gastrointestinal tract disease, only after consulting ADVERSE REACTIONS.

In patients with active peptic ulcer and active rheumatoid arthritis, nonulcerogenic drugs, such as gold, should be tried. If Motrin must be given, the patient should be under close supervision for signs of ulcer perforation or gastrointestinal bleeding.

Precautions: Blurred and/or diminished vision, scotomata, and/or changes in color vision have been reported. If these develop, discontinue Motrin and the patient should have an ophthalmologic examination, including central visual fields.

Fluid retention and edema have been associated with Motrin; use with caution in patients with a history of cardiac decompensation.

Motrin can inhibit platelet aggregation and prolong bleeding time. Use with caution in persons with intrinsic coagulation defects and those on anticoagulant therapy.

Patients should report signs or symptoms of gastrointestinal ulceration or bleeding, blurred vision or other eye symptoms, skin rash, weight gain, or edema.

To avoid exacerbation of disease or adrenal insufficiency, patients on prolonged corticosteroid therapy should have therapy tapered slowly when Motrin is added.

Drug interactions. Aspirin used concomitantly may decrease Motrin blood levels.

Coumarin. Bleeding has been reported in patients taking Motrin and coumarin.

Pregnancy and nursing mothers: Motrin should not be taken during pregnancy or by nursing mothers.

Adverse Reactions

Incidence greater than 1%

Gastrointestinal: The most frequent type of adverse reaction occurring with Motrin (ibuprofen) is gastrointestinal (4% to 16%). This includes nausea^o, epigastric pain^o, heartburn^o, diarrhea, abdominal distress, nausea and vomiting, indigestion, constipation, abdominal cramps or pain, fullness of the GI tract (bloating and flatulence). **Central Nervous System:** Dizziness^o, headache, nervousness. **Dermatologic:** Rash^o (including maculopapular type), pruritus. **Special Senses:** Tinnitus. **Metabolic:** Decreased appetite, edema, fluid retention. Fluid retention generally responds promptly to drug discontinuation (see PRECAUTIONS).

Incidence: Unmarked 1% to 3%; ^o3% to 9%.

Incidence less than 1 in 100

Gastrointestinal: Upper GI ulcer with bleeding and/or perforation, hemorrhage, melena. **Central Nervous System:** Depression, insomnia. **Dermatologic:** Vesiculobullous eruptions, urticaria, erythema multiforme. **Cardiovascular:** Congestive heart failure in patients with marginal cardiac function, elevated blood pressure. **Special Senses:** Amblyopia (see PRECAUTIONS). **Hematologic:** Leukopenia, decreased hemoglobin and hematocrit.

Causal relationship unknown

Gastrointestinal: Hepatitis, jaundice, abnormal liver function. **Central Nervous System:** Paresthesias, hallucinations, dream abnormalities. **Dermatologic:** Alopecia, Stevens-Johnson syndrome. **Special Senses:** Conjunctivitis, diplopia, optic neuritis. **Hematologic:** Hemolytic anemia, thrombocytopenia, granulocytopenia, bleeding episodes. **Allergic:** Fever, serum sickness, lupus erythematosus syndrome. **Endocrine:** Gynecomastia, hypoglycemia. **Cardiovascular:** Arrhythmias. **Renal:** Decreased creatinine clearance, polyuria, azotemia.

Overdosage: In cases of acute overdosage, the stomach should be emptied. The drug is acidic and excreted in the urine, so alkaline diuresis may be beneficial.

Dosage and Administration: Suggested dosage is 300 or 400 mg t.i.d. or q.i.d. Do not exceed 2400 mg per day.

How Supplied

Motrin Tablets, 300 mg (white)

Bottles of 60

Bottles of 500

NDC 0009-0733-01

NDC 0009-0733-02

Motrin Tablets, 400 mg (orange)

Bottles of 60

Bottles of 500

Unit-dose package of 100

Unit of Use bottles of 120

NDC 0009-0750-01

NDC 0009-0750-02

NDC 0009-0750-06

NDC 0009-0750-26

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Upjohn

The Upjohn Company
Kalamazoo, Michigan 49001

Rhode Island Medical Society

Necrology — 1978

Harold L. Beddoe, MD

Doctor Harold L. Beddoe, of Warwick, died on December 17, 1978, at 61 years of age. Doctor Beddoe served in the Army during World War II and the Korean War. He graduated in 1939 from the University of Tulsa with a bachelor of arts degree, and received his medical degree in 1943 from Tulane University, New Orleans. He interned the same year at Southern Pacific General Hospital, San Francisco, and was a resident physician at Hillcrest Memorial Hospital, Tulsa, a year later. From 1947 to 1948, he was in private practice in Tulsa. The doctor was a fellow of the American Academy of Forensic Sciences, the College of American Pathologists, and a member of the American Medical Association, the Rhode Island Medical Society, the Kent County Medical Society and the Rhode Island Society of Pathologists.

Ezio J. Bernasconi, MD

Doctor Ezio J. Bernasconi, of Providence, died on December 16, 1978, at 73 years of age. He was a graduate of Providence College and the St. Louis School of Medicine, where he earned a degree in ophthalmology. He was a fellow of the American College of Surgeons and a certified member of the American Board of Ophthalmology. He was a past president of the medical staff of St. Joseph's and Our Lady of Fatima Hospitals. Doctor Bernasconi was a lieutenant colonel in the Army Medical Corps in World War II. He served as hospital commander in England and received the Selective Service Medal.

Earl A. Bowen, MD

Doctor Earl A. Bowen died on January 11, 1978, at 83 years of age. Doctor Bowen was a 1915 graduate of Brown University and a 1919 graduate of Tufts Medical School. He served in the Army Medical Corps in World War I, and was a member of American Legion Post 21, Cranston. Also, he was a member of the New England Obstetric and

Gynecological Society, the Providence Medical Association, the Rhode Island Medical Society, and the American Medical Association.

Harold G. Calder, MD

Doctor Harold G. Calder died on June 11, 1978, at 96 years of age. He was a 1902 graduate of Brown University and a 1906 graduate of Harvard Medical School. Doctor Calder was a chief of pediatrics at the Rhode Island Hospital from 1926 to 1943 and chief of pediatrics at Chapin Hospital from 1928 to 1958. He was also a consulting pediatrician to the former Lying-In Hospital, The Memorial Hospital and Emma P. Bradley Hospital. His memberships included the American Academy of Pediatrics, the Providence Medical Association, the Rhode Island Medical Society and the American Medical Association, and he was a former director of the Rhode Island Heart Association.

Nathan Chaset, MD

Doctor Nathan Chaset died on January 18, 1978, at 66 years of age. Doctor Chaset was a graduate of Classical High School, Brown University, and Boston Medical School. He served his residency at the Beth Israel Hospital in Boston. From 1942 to 1946 he served with the U.S. Medical Corps, and obtained the rank of major. He received an official commendation from the Government of Iran for his accomplishments in the Iranian Army Hospitals. Besides serving as former presidents of both the Rhode Island Medical Society and the Providence Medical Association, he was also president and executive committee chairman of the New England Section of the American Urological Association; a co-founder and director of the Rhode Island Renal Institute; a past chairman of the state's Medical-Legal Committee; a diplomat on the National Board of Medical Examiners and the American Board of Urology; a fellow in the American Medical Association and the American College of Surgeons; and a member of the American

Association of Clinical Urologists, the state board of Medical Review and the Providence Senior Citizens Task Force. A former chief of the Departments of Urology at The Miriam Hospital and the Women and Infants Hospital in Providence, he was director of the vasectomy clinic at the Women & Infants Hospital and chief of the Department of Urology at Rhode Island Medical Center General Hospital, Cranston. He also served as attending urologist at the Veterans Administration Hospital, Davis Park, and a consultant of urology at Rhode Island Hospital, Woonsocket Hospital, Kent County Memorial Hospital, St. Joseph's Hospital, Roger Williams Hospital, Newport Hospital and the Veterans Administration Regional Office.

Leo A. Coleman, MD

Doctor Leo A. Coleman, chief of neurology at The Memorial Hospital, died on April 5, 1978, at 49 years of age. Doctor Coleman was a graduate of Notre Dame University, and Johns Hopkins University. He also attended a university in Rome, Italy. He interned at The Memorial Hospital, later had a private practice in Riverside for four years, and then opened a practice in neurology and nuclear medicine in Pawtucket. He also was a chief of neurology at the Bristol County Medical Center. Doctor Coleman was a member of the Johns Hopkins Club, the Notre Dame Club of Boston, the Rhode Island Medical Society and the Pawtucket Medical Association.

Robert F. Corrente, MD

Doctor Robert F. Corrente, of East Greenwich, died on December 9, 1978, at 51 years of age. The doctor was a graduate of Brown University and Tufts Medical School. He taught at Brown University and Boston City Hospital, and was a lecturer in human anatomy and in the paramedic program at Rhode Island Junior College. He was a diplomate of the National Board of Medical Examiners, a fellow of the American College of Surgeons, a certified member of the American Board of General Surgery, and he was a past president of the Kent County Medical Association. The doctor served with the Navy as a lieutenant in the Korean War,

and later as a medical officer in the Navy Reserve.

George Davis, MD

Doctor George Davis, of Cranston, died on September 6, 1978, at 70 years of age. Doctor Davis graduated in 1925 from Middlebury College, Vermont, and in 1930 from the Rochester Medical College, New York. He was a member of the American Society of Contemporary Medicine and the Rhode Island and Massachusetts Medical Societies. He was on the staffs of the Women & Infants Hospital and of The Miriam Hospital.

Stanley Freedman, MD

Doctor Stanley Freedman of Washington Road, West Palm Beach, Florida, died on August 16, 1978, at 78 years of age. Doctor Freedman was former director of pediatric allergy at Rhode Island Hospital. He was a diplomate of the American Academy of Pediatrics and the National Board of Allergy and Immunology, past president of the New England Allergy Society, and honorary president of the Rhode Island Society of Allergy.

Richard E. Haverly, MD

Doctor Richard E. Haverly, a Providence physician for 46 years before retiring, died on February 26, 1978, at 74 years of age. The doctor graduated from Tufts Medical School and served in the Army Medical Corps during World War II, retiring as a major. He was a member of the American Medical Association, the Providence Medical Association and the Rhode Island Medical Society.

Maurice W. Laufer, MD

Doctor Maurice W. Laufer, president of the Emma P. Bradley Hospital, died on September 13, 1978, at 64 years of age. Doctor Laufer graduated from the University of Wisconsin and received his medical degree from Long Island College of Medicine in 1939. He received his psychiatry training at the School of Military Neuropsychiatry at Bradley Hospital at the State Hospital for Mental Diseases, now the Institute of Mental Health. After completing an internship at Cumberland Hospital in Brooklyn, he served

as a resident in communicable diseases at the Kingston Avenue Hospital, Brooklyn. He also served in pediatrics and other specialties at hospitals in New York City and at the Cornell University Medical College, and he taught at Antioch College in Yellow Springs, Ohio, while serving at Fels Research Institute there. Also, for two years he was captain in the Army Medical Corps with assignments at the neuropsychiatric division of Mayo General Hospital in Galesburg, Illinois and as the clinical director at Bradley. The doctor was a diplomat of the American Board of Pediatrics; a fellow of the American Academy of Pediatrics; and a member of the American Psychiatric Association, the Rhode Island Medical Society and the Providence Medical Association. He was former chairman of the state Advisory Commission on Mental Retardation and served on a commission appointed by former Governor John H. Chafee to develop a new mental health plan for Rhode Island. He received the John F. Kennedy Award from Rhode Island College in 1971.

Arthur E. Martin, MD

Doctor Arthur E. Martin, orthopedic surgeon, died on March 4, 1978, at 83 years of age. He was graduated from B.M.C. Durfee High School, Fall River and Tufts College Medical School in 1919, and he did his internship at Rhode Island Hospital. During World War II he served as chief of orthopedic surgery with the rank of major in the Army's 48th Evacuation Hospital in the China-India-Burma Theater. The doctor was a member of the American College of Surgeons, the Providence Medical Association, the Rhode Island Orthopedic Society, the Boston Orthopedic Society and the Rhode Island Chapter of the National Rehabilitation Association.

Alexander F. Marzilli, MD

Doctor Alexander F. Marzilli, Sr., a Providence physician for 42 years, died on April 13, 1978, at 72 years of age. He was a 1929 graduate of Brown University, and of Tufts University Medical School in 1934. He interned at St. Vincent's Hospital in New York City, and began his practice in Providence in 1936. Doctor Marzilli was a member of the American Medical Association,

the Providence Medical Association, the Rhode Island Medical Society, the Rhode Island Heart Association, the American Academy of General Practice and the American Geriatric Society.

Gordon E. Menzies, MD

Doctor Gordon E. Menzies, of North Kingstown, died on September 15, 1978, at 73 years of age. He did pre-medical studies at McGill University in Montreal, and earned his medical degree at Edinburgh University in 1933. His obstetrical training was at the Rotunda Hospital in Dublin. Dr. Menzies was a past president of South County Hospital, past president of the Washington County Medical Society, and former delegate-at-large for the Rhode Island Medical Society. He was a member of the American Medical Association, the American Academy of Family Physicians and the Rhode Island and national chapters of the American Academy of General Practice. The doctor was a colonel in the Army from 1941 to 1945 and served in North Africa.

Peter P. Reilly, MD

Doctor Peter P. Reilly, child and adult psychiatrist, died May 4, 1978, at 51 years of age. Doctor Reilly was a graduate of Providence College and of The New York Medical School. He interned at St. Joseph's Hospital, Providence and had a general practice in Warwick for nine years. He studied child psychiatry at Harvard University and served five years of residency in this specialty at the Children's Hospital, Brighton, Massachusetts. For two years he was director of the Providence Youth Guidance Clinic at Butler Hospital. The doctor was a member of the American Psychiatric Association, the Rhode Island Psychiatric Association, the American Medical Association, the Providence Medical Association and the Rhode Island Medical Society.

Valentino R. Simone, MD

Doctor Valentino R. Simone, pediatrician, died March 30, 1978, at 54 years of age. Doctor Simone graduated from Providence College and earned his medical degree at the University of Bologna in Italy in 1956. He interned at Children's and Infants Hospital, Boston and at Roger Williams Hospital, and

he served a residency in pediatrics at Rhode Island Hospital. He was on the staffs of Rhode Island, Women & Infants, St. Joseph's and Roger Williams hospitals; was a diplomate of the American Board of Pediatrics; and a member of the Rhode Island Medical Society, the American Medical Association and the National Academy of Pediatrics. The doctor was a World War II Army veteran.

Michael A. Tarro, MD

Doctor Michael A. Tarro, retired general practitioner, died Sunday, January 1, 1978, at 69 years of age. He had maintained a practice on Atwells Avenue, Providence for 38 years before retiring in 1973. He was a graduate of Classical High School and of Providence College in 1930, and received his degree in medicine from Loyola University School of Medicine in 1934. He served an internship at St. Thomas Hospital, Ohio, in 1935. The doctor was a former member of the American Medical Association and the Rhode Island Medical Society.

Joseph B. Webber, MD

Doctor Joseph B. Webber died on January 29, 1978, at 83 years of age. Doctor Webber graduated from Tufts Medical School in 1919, and practiced medicine in Providence from 1920 until he retired in 1975. He was a fellow of the American College of Surgeons; a member of the Rhode Island Medical Society, the Providence Medical Association, and the Providence Surgical Society; a past president of The Miriam Hospital Staff Association; and had been on the staffs of The Miriam Hospital, St. Joseph's Hospital, Roger Williams Hospital, and the Charles V. Chapin Hospital.

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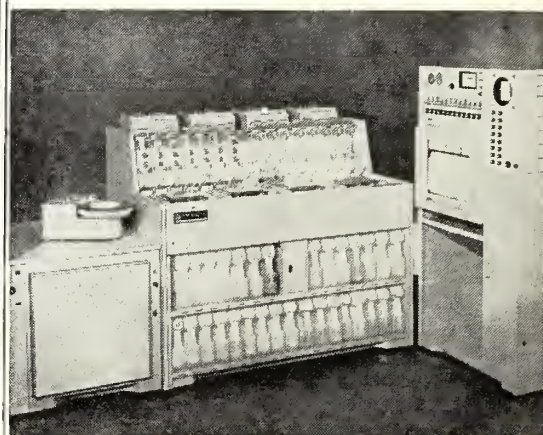
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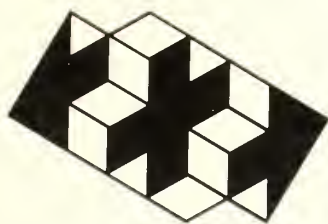
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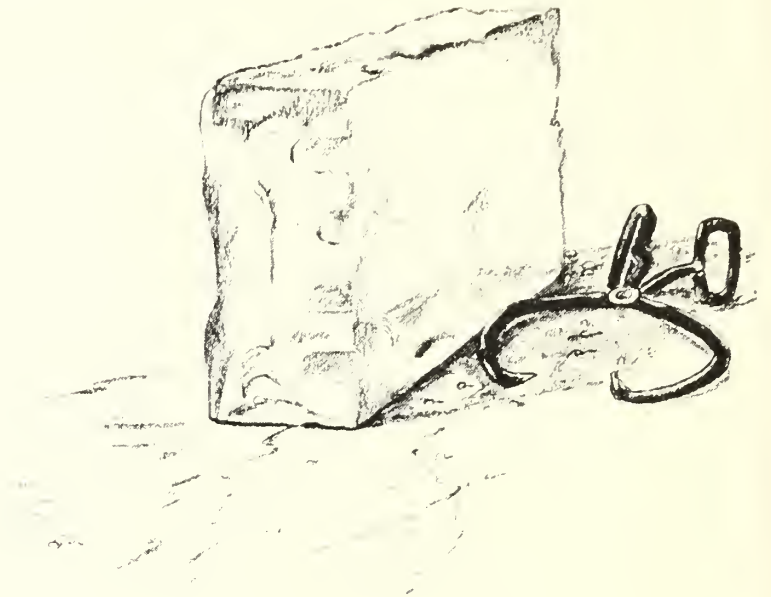
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Smoking, Dieting, and Exercise: Age Differences in Attitudes and Behavior Relevant to Selected Health Belief Model Variables

The Perceived Seriousness Is An Important Factor In Influencing Behaviour

By William R. Aho, PhD

Extensive research has been conducted over the past twenty years in an effort to discover and understand the nature and dynamics of individual health-related behaviors, ranging from taking preventive actions to complying with physicians' advice. Several models for studying, interpreting, and predicting health behaviors have emerged from this research, and these have recently been reviewed and systematized by Marshall Becker and associates,¹ who also propose a reformulated Health Belief Model. Their comprehensive review obviates the need for another.

The Becker paper is an outgrowth of the work of a subcommittee of the Medical Sociology Section of the American Sociological Association titled The Carnegie Grant Subcommittee on Modification of Patient Behavior for Health Maintenance and Disease Control.

As an organizing rubric the committee used the Health Belief Model because, "First, the model variables provide potentially intervenable (ie, modifiable) links between the demographic, background, and resource

variables of the other models and ultimate utilization of health and medical care services.

"Second, the model's core dimensions are derived from a well-established body of psychological and behavioral theory, particularly the work of Lewin. Its focus on the valence of a goal, subjective probability of attainment, and motivation make it similar to other models of decision-making under uncertainty

Third, while the Model was originally developed to account for preventive health actions, it has been employed to explain illness and sick-role behaviors as well

Fourth, analogies to the model's health belief variables may be found in other models."¹

Originally developed by G. M. Hochbaum and associates, the Health Belief Model consists essentially of several variables which have been measured in different ways by different investigators over several years. These variables are portrayed in Figure 1, taken from the Becker paper.

The Becker review summarizes the major studies which utilize the model's variables, proposes a "summary hypothesized model" for explaining and predicting "individual health-related behaviors" (Figure 2) and calls for utilization of the reformulated model in further research on patient-related aspects of

WILLIAM R. AHO, PhD, *Associate Professor of Sociology, Department of Sociology and Social Welfare, Rhode Island College, Providence, Rhode Island*

Figure 1.
The Original Health Belief Model
(from Becker et al¹)

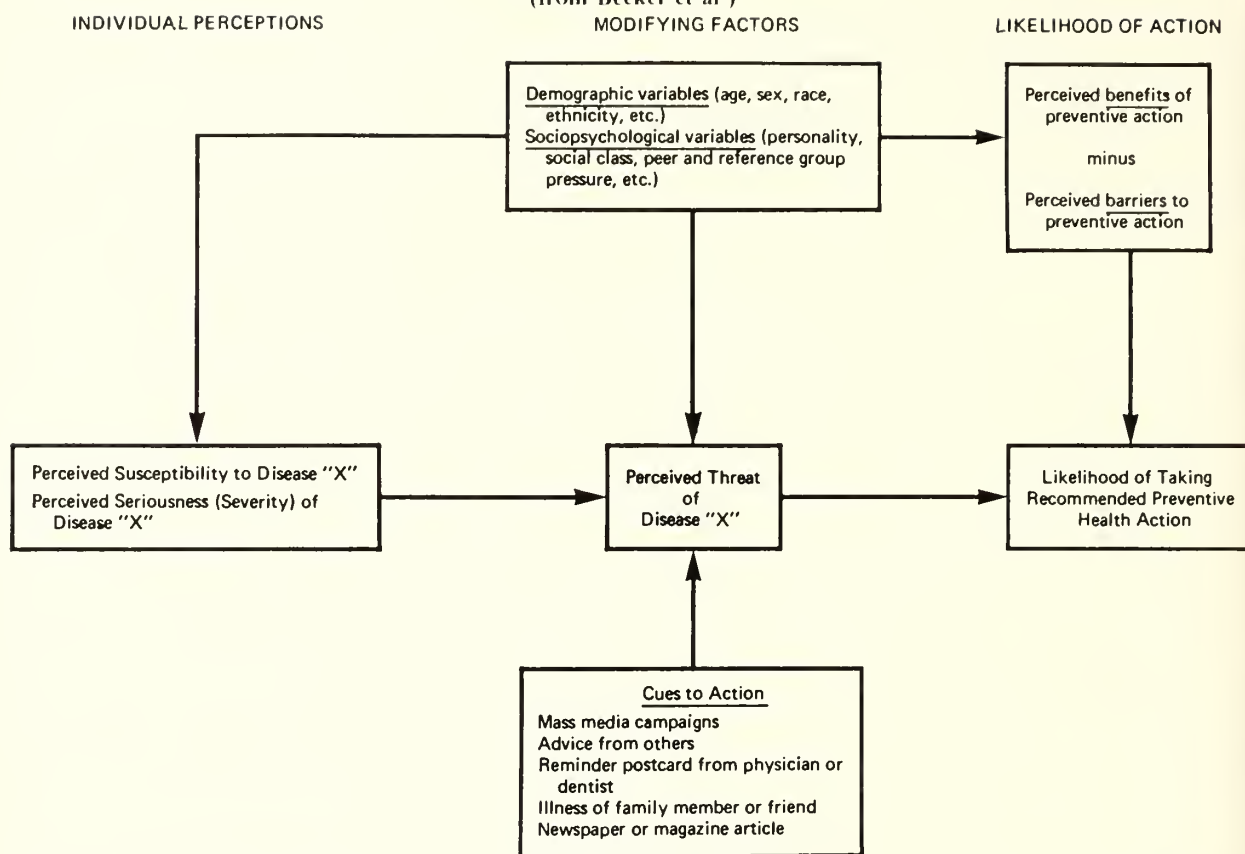
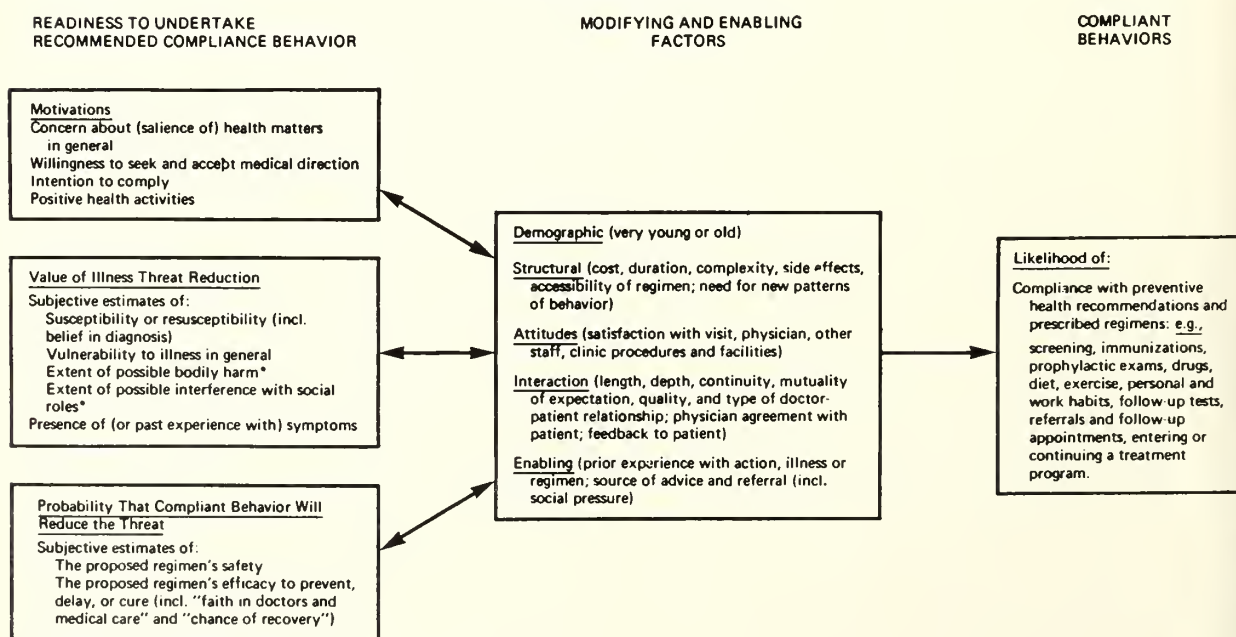


Figure 2.
Revised Health Belief Model
(from Becker et al¹)



*At motivating, but not inhibiting, levels.

health maintenance and disease control. The model can help researchers focus on those variables most likely to prove relevant to health-related behaviors, thus avoiding expenditure of money, time, and other resources on unfruitful paths of investigation. The authors also call for more extensive research in different settings and with different population groups.

This paper contributes to the extension of the Health Belief Model by providing evidence of its utility with a statewide population, for senior citizens, in recent times, and with the important health-related conditions or statuses of cigarette smoking, excess weight, and regular participation in physical activity. None of the previously-reported studies using Health Belief Model variables has used a statewide sample, and very few have focused on senior citizens.

The age factor was chosen as a relevant and important dimension of the data analysis because of the rapidly increasing size of both the absolute numbers and proportion of persons aged 65 and over in our society, and the increasing concern being shown for their well-being by health-care providers and others.²⁻⁴

Methodology

The data reported here were gathered on two occasions — in August 1976 and January 1977 — by the Rhode Island State Center for Health Statistics, Rhode Island Health Services Research, Inc. (SEARCH), which is not responsible for interpretations made from the data.

The surveys were conducted by telephone from samples selected by random-digit dialing. This technique assures that results will be as representative of the state population as possible when the telephone is used as the only method of obtaining interviews.⁵ Only those state residents without a working telephone are excluded and thus constitute a bias in the sampling. Those with unlisted, unpublished, or new phones not yet recorded are included in the sample.

The interviews, which averaged between five and fifteen minutes and contained 24 items, were conducted evenings from the SEARCH offices over a five-day period in each year. The interview protocol was identical for both the 1976 and 1977

interviews. Follow-up calls to reach those who did not answer their phones on the first dialing were subsequently made on two separate occasions. Business numbers were eliminated from the final sample as were non-working numbers that arose among the random numbers initially selected. (Fifty-eight per cent of the numbers were non-working, a percentage considered quite favorable in random-digit dialing surveys).⁵ The response rate for the combined sample was 76.5 per cent of the working numbers. Of the 322 nonrespondents 40.6 per cent either refused to reply or did not speak English, and 59.3 per cent did not answer the phone.

Compared to official estimates of the 1975 state population the sample had a bias in favor of women (15 per cent more than the state) and those in the 65-and-over age category (two per cent more).

The data from the 1976 and 1977 surveys are combined. Just two age categories are used, those aged 65 and over and those under age 65, because initial analysis revealed little difference by age in the responses of two younger sub-categories, ie, those aged 30-64 and those under age 30. In addition, in some instances the numerical size of the separate age categories was too small to permit valid analysis.

The Findings:

Cigarette Smoking Status and Perceived Seriousness of its Threat to Health.

The data presented in Table 1 refer to the Health Belief Model variable Perceived Seriousness (See Figure 1). The data indicate that there is a statistically significant relationship between smoking status and the perceived seriousness of this practice to one's health, but there is little difference between the older and younger respondents in this regard. For both categories about three-fourths of those who never smoked feel that it is very harmful to a person's health, while among the current smokers fewer than one-half feel this way.

Conversely, while fewer than ten per cent of those in either age category *who never smoked* feel it is not harmful or just a little harmful, among *current smokers* from one-fifth to one-third feel this way. The largest differences are between the current smokers

on the one hand and both the former smokers and never smoked on the other.

Perceived seriousness of smoking, then, differentiates those who now smoke from those who do not, providing recent support for this variable of the Health Belief Model with a statewide population and for both senior citizens and younger persons.

The younger current smokers evidence more probable cognitive dissonance about their smoking practices — more of them think that smoking is either very harmful or somewhat harmful than is true of the 65-and-over current smokers. Assuming that the older current smoker respondents have been smoking for more years than the younger, they may have convinced themselves that the practice has not harmed them and is not very harmful. The indirect evidence for this is that nearly twice as many of the older than younger current smokers feel that smoking is not harmful or is only a little harmful.

Excess Weight Status and Seriousness of its Threat to Health

The data presented in Table 2 reveal a statistically significant relationship between self-assessment of weight and the effect of weight on one's health.

The significance again exists for both the senior citizen and the younger age categories, and again there is little difference between the percentages in each of the categories. The statistical relationship is, however, stronger for the older respondents. Overall, in each of the weight status and age categories, from two-fifths to two-thirds of the respondents feel that excess weight is very harmful.

For both age categories the relationship is curvilinear, with more of those in both the "Very Overweight" or "Under or About Right" categories feeling that excess weight is very harmful than do those in the middle-range, "A Little Overweight" position. The rather sharp contrast between the status

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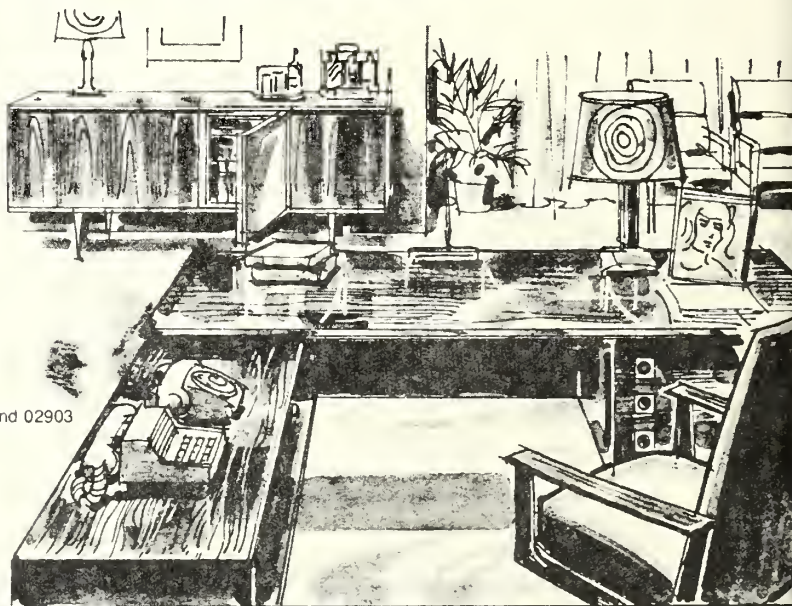
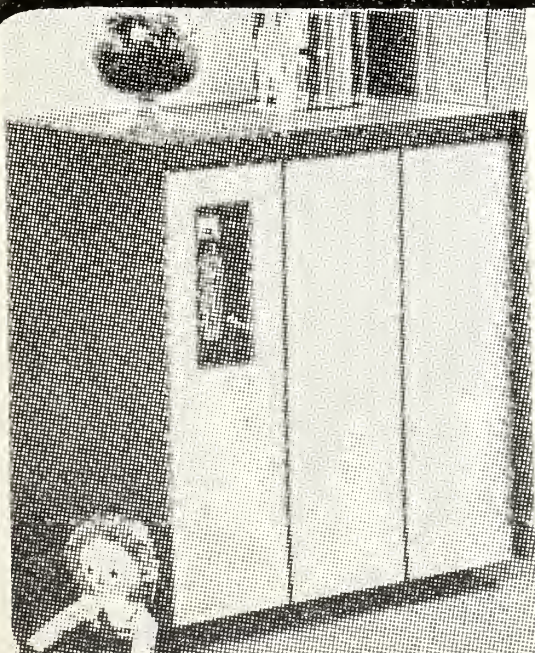


TABLE 1.

Relationship Between Smoking Behavior and Attitude on Harmfulness of Smoking, by Age.

Age and Attitude	Smoking Behavior			Totals
	Current	Former	Never	
	%	%	%	%
65 Years or Over				
Not or Little				
Harmful	34 (16)	8 (3)	8 (8)	15 (27)
Somewhat				
Harmful	26 (12)	18 (7)	17 (16)	19 (35)
Very				
Harmful	40 (19)	74 (28)	75 (73)	66 (120)
Totals	100 (47)	100 (38)	100 (97)	100 (182)
Chi-Square=22.79;p=<.001;Cramer's V=.26				
Under 65 Years				
Not or Little				
Harmful	18 (65)	3 (4)	5 (16)	10 (85)
Somewhat				
Harmful	36 (129)	16 (23)	16 (52)	25 (204)
Very				
Harmful	46 (164)	100 (142)	100 (326)	65 (537)
Totals	100 (358)	100 (142)	100 (326)	100 (826)

Chi-Square=107.221;p=<.001;Cramer's V=.26



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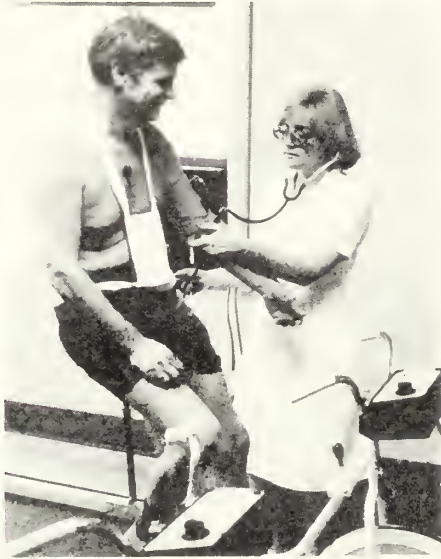
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TABLE 2.

Relationship Between Self-Assessment of Weight and Attitude About Effect of Excess Weight on Health, by Age.

Age and Effect of Excess Weight	Own Weight			
	Under or About Right	A Little Overweight	Very Overweight	Total
	%	%	%	%
65 Years or Over				
Not or Little				
Harmful	7 (8)	16 (7)	25 (5)	11 (20)
Somewhat				
Harmful	27 (32)	42 (19)	10 (2)	29 (53)
Very				
Harmful	66 (79)	42 (19)	65 (13)	60 (111)
Totals	100 (119)	100 (45)	100 (20)	100 (184)
Chi-Square=15.16;p<.;Cramer's V=.20				
Under 65 Years				
Not or Little				
Harmful	7 (30)	12 (34)	6 (5)	8 (69)
Somewhat				
Harmful	31 (30)	37 (109)	29 (22)	33 (274)
Very				
Harmful	62 (287)	51 (150)	65 (50)	59 (487)
Totals	100 (460)	100 (293)	100 (77)	100 (830)
Chi-Square=12.18;p<.02;Cramer's V=.09				



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TABLE 3.
Relationship Between Participation in Physical Activities and Attitude Towards
Importance of Exercise for Good Health, by Age.

Age and Attitude on Importance	Currently Participates		
	Yes	No	Totals
	%	%	%
65 Years or Over			
Not or Little Important	7 (7)	14 (12)	10 (19)
Somewhat Important	13 (13)	19 (17)	16 (30)
Very Important	80 (82)	67 (58)	74 (140)
Totals	100 (102)	100 (87)	100 (189)
Chi-Square=4.143;p=<.20>10;Cramer's V=.15			
Under 65 Years			
Not or Little Important	1 (4)	8 (24)	3 (28)
Somewhat Important	18 (98)	29 (82)	22 (180)
Very Important	81 (452)	63 (182)	75 (634)
Totals	100 (554)	100 (288)	100 (842)
Chi-Square=48.448;p=<.001;Cramer's V=.24			

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categories seen in Table 1 for smoking behavior do not appear here.

Although the data for weight reflect a perceived condition or status of the respondent rather than a behavior like smoking, they do provide support for the Seriousness variable of the Health Belief Model and fail to reveal any significant age differences.

The Efficacy of Physical Activity for Maintaining Good Health

The data in Table 3 do not yield statistical significance between regular participation in physical activity and its importance for good health for the senior citizen respondents, but the distribution is statistically significant for those younger than age 65. This may be due to the fact that some senior citizens are not able to participate in physical activity regularly because of their health status. For both age categories, even among those who do not regularly participate (ie participate at least twice a week), some two-thirds of the respondents believe that it is very important in maintaining good health.

This variable reflects the dimension of the efficacy of a health-related behavior and for the younger respondents provides support for this Health Belief Model variable in a statewide population.

For those aged 65 and over it is possible that the responses reflect an effort, conscious or not, to maintain consistency between their abilities and perceived efficacy. This possibility warrants explicit investigation in future research dealing with this variable, to discover whether or not, how, and to what extent the efficacy of an action is affected by both subjective and objective ability to participate in that activity.

Summary

Based on statewide telephone interviews conducted in Rhode Island in 1976 and 1977, data are presented and analyzed for 1046 respondents in two age categories (age 65 and over and under age 65) to examine the relationship between two Health Belief Model variables — Seriousness and Efficacy — and preventive health behavior. The behaviors are cigarette smoking, being overweight, and regular participation in physical activity.

For both age categories a statistically significant relationship was found between

smoking and Seriousness and being overweight and Seriousness. For the Efficacy variable the relationship was statistically significant only for the younger respondents.

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The Treatment of Bone Cysts with Intracyst Injection of Steroids

Injection Of Steroids Will Largely Replace Surgery In The Treatment Of Benign Bone Cysts

By A. A. Savastano, M.D.

In general the treatment of unicameral and multicameral bone cysts has been surgical, consisting of evacuation of the cyst, curetting of the lining membrane, cauterization of the cavity with phenol, and filling it with autogenous bone chips. The results have been good in a majority of cases, but the failure rate has been approximately 28 per cent.

During the past few years a new form of treatment has evolved in some of the clinics in Europe, particularly in the orthopaedic clinics of Bologna, Florence, and Pisa in Italy. The idea was suggested by Professor Scaglietti in June of 1973. The treatment consists of introduction of a needle into the bone cyst, aspiration of the cyst fluid, and injection of varying amounts of steroids, particularly Depo-Medrol®. In some cases up to five separate injections have been required in order to cure the lesion.

This form of treatment has been successful in at least 75 per cent of cases treated. The lesion is checked by x-ray every three

months, and injections are repeated whenever necessary. The larger the cyst, the larger the dose of steroid to be injected. Cysts have been injected with as little as 80 mg of Depo-Medrol®, and as much as 500 mg. Some of the cysts have required five separate injections.

Sixty-six cases were treated in Florence and Pisa by this method. They were followed from 1-3 years. The age range was 3-27 years. Most of the patients, however, were between 8 and 11 years of age. Male patients were in the majority. Thirty-five were virgin cysts and were treated directly by local infiltration of Depo-Medrol®. Five cases were recurrent cysts which had been treated surgically. In 26 cases there were pathological fractures through the cyst. Of the 66 cases, 59 either were healed or on the way to healing while 7 cases did not heal. In sixteen additional cases, not enough time had elapsed for final evaluation.

Thirty-six per cent of the cases healed with one injection only. Twenty-four per cent healed with two injections. Thirty-six per cent improved with two or more injections. Four per cent remained unchanged.

Method

The cystic area of the extremity is prepared in the usual manner. A 14-16 gauge needle, 2 inches in length, is inserted through the skin immediately over the center of the cyst and held in place. A drill of appropriate size is

A. A. SAVASTANO, MD, *Consultant, Department of Orthopedics, Rhode Island Hospital, Providence, Rhode Island; Clinical Professor of Surgery (Orthopedic Surgery), Brown University Program in Medicine, Providence, Rhode Island.*

threaded through the opening in the 14-16 needle, and a hole is drilled into the cavity. A spinal needle is then threaded through the needle. The cyst is aspirated, and the fluid sent to the laboratory. Forty to 80 mg of Depo-Medrol® is mixed in the same amount of sterile saline as the amount of fluid removed from the cyst and injected into the cyst; however, if the cyst is large one may inject up to 200 mg. If there is difficulty in inserting the needle through the skin, a tiny stab wound with a No. 11 blade may be made.

If pain is present, it disappears immediately following the infiltration of Depo-Medrol® into the cystic cavity. X-ray control is customary after three months. There is usually improvement of the peripheral atrophy of the cortical bone at the cystic wall, while the cystic gap becomes opaque to the x-rays. Repeating the infiltration at this stage allows one to feel a striking increase of the hardness of the cystic wall. After 5-6 months reticular bone is observed in the cavity. Reticular bone is later noted to evolve into a lamellar structure very similar to normal bone or to undergo tiny local recurrences which are eliminated by further introduction of Depo-Medrol®.

The patient is discharged from the hospital following the injection, or as soon as he recovers from anesthesia if the procedure has been done under general anesthesia. He may

resume his usual activities the same day. As stated x-ray studies are repeated in 90 days. If the cyst appears to be filling in, nothing further is done. However, if it does not appear to be filling in, the procedure is repeated. X-ray films should be taken every ninety days to determine the progress of the lesion.

It appears that this method of treatment is also useful for eosinophilic granuloma of bone. Our experience to date with this method for this condition, however, is thus far limited.

The advantage of this method of management lies in the fact that it can be used on large or small cysts, on cysts that have recurred after having been treated by open surgery with bone grafting, on cysts that have undergone pathological fractures, and on cysts that are close to epiphysis.

Further advantages are that the rate of healing is faster than with curettage and bone grafting, the infiltration may be done at any age, it can be carried out even if the cyst is practically in contact with the epiphysis, and curettage and bone grafting can be avoided in most cases.

Clinical Data

Our experience in Rhode Island consists of seven cases, five boys and two girls, all of whom required treatment for bone cysts being

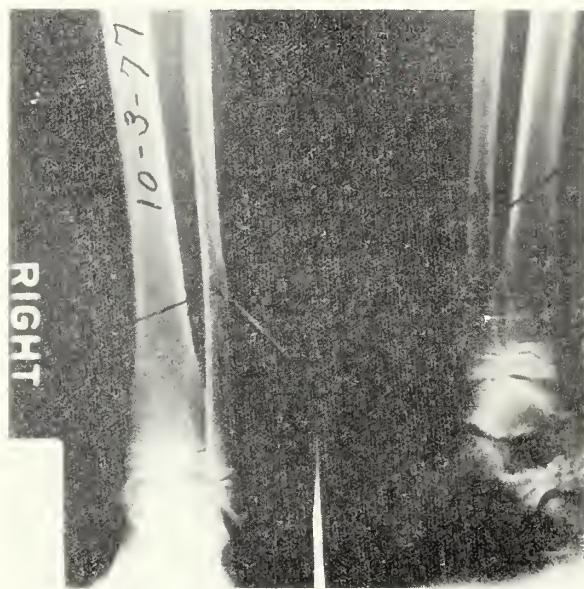


Fig. 1: An eleven-year-old girl with a uni-cameral bone cyst of the fibula three months after first intracyst injection.



Fig. 2: An eleven-year-old girl with a uni-cameral bone cyst of the fibula after three intracyst injections.

discovered after falls or accidents causing bone injury. Three cases involved the humerus and the remaining four cases involved the tibia, ankle, and foot. In all seven cases intracyst injections of steroids resulted in cures. In five cases the improvement was rapid; in the remaining two cases it was more gradual. In the case reported below repeat injections caused the cyst to disappear.

Case Report

This is the case of an 11 year old female who gave a history of injuring her right ankle in a gymnastic class two days previously. X-ray films showed evidence of a cyst of the right lower fibula. There had been no history of any previous disease or trauma affecting the leg.

She received her first injection of 80 mg of Depo-Medrol® on 7/1/77. X-ray films were repeated on 10/3/77 and showed the condition of cystic lesion to be definitely improved. A repeat injection on 10/25/77 of 80 mg of Depo-Medrol® was carried out. On 1/24/78 x-ray films of the fibula showed the lesion to be much smaller. In order to speed up the process another injection was made on 3/2/78. The cyst is no longer painful.

Mode of Action

How does this form of treatment work? Whether the steroid destroys the lining membrane of the cyst wall, stimulates bone formation, or does both is not known. Since it would be difficult to produce uni- or multicameral bone cysts in laboratory animals, it would not be possible to reproduce the phenomenon experimentally. It is my view that the steroid destroys the lining membrane of the cyst, and osteogenesis then ensues. It has been observed that steroid injections in or about a tendon may destroy the tendon tissue, causing tendon rupture. The mechanism here may be analogous.

Summary

The method of treatment is effective. It allows for a high rate of healing of bone cysts and avoids surgical intervention in many cases. The treatment may be carried out at any time regardless of the proximity of the bone cyst to the epiphyseal plate.

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Chronic Calcified Epidural Hematoma in a Child

Persistent Headaches Or Ill-Defined Neurological Complaints Following Head Trauma Should Suggest Chronic Epidural Hematoma

By Toussaint A. Leclercq, MD
Ted Rozycki, MD

Classically, an epidural hematoma follows a head trauma as an acute sequela and brings the patient to neurosurgical attention within a few hours of the accident. In the majority of cases a skull fracture is present, and after a "free interval" of a few hours to a few days signs of central nervous system involvement appear which require emergency surgical intervention. However, a few "chronic cases" have been reported. The time interval between the trauma and the injury varies widely depending upon the various authors' understanding of the term "chronic". A review of the literature reveals that the delay between injury and surgery varies from four days to six years.^{1 2} In a series of sixteen cases reviewed by Hawkes³ the interval between trauma and surgery was more than two days in fifty per cent of the cases. The case which we report is interesting in that the diagnosis was made by computerized tomography (CAT scan) after the patient was admitted for non-specific loss of balance and a mildly increased intracranial pressure.

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TED ROZYCKI, MD, *Staff Pediatrician, Rhode Island Hospital, Providence, Rhode Island.*

Case Report

On June 15, 1975 this three-year-old boy fell on concrete and was taken to the hospital with a history of unconsciousness lasting a few minutes. Neurological examination on admission was normal, and no significant complications developed during a short period of observation. Skull x-ray films revealed a left parietal fracture and the presence of a huge subgaleal hematoma. After discharge from the hospital the patient had no significant complaints and returned to normal activities. However, his school-teacher and family noticed that he was "clumsy" and had a tendency to lose his balance. On October 17, 1975 the patient fell from the roof of an automobile and was again taken to the emergency room. Skull x-ray films revealed a skull fracture as previously described, and a beaten-silver appearance. Although the last fall was not followed by unconsciousness, admission was recommended because of the x-ray findings and a history of frequent falls.

On neurological examination on the day following admission the little boy was quite alert. There were no focal motor deficits. His performance in cerebellar testing was below expectation for one in his age group, and his gait was on a broad base. Fundi showed no papilledema, but venous pulsations were

absent. Brain scan showed a left parietal scalp contusion, but no intracranial pathology. EEG was unremarkable. A consultant in pediatric neurology recommended, in view of a lack of lateralizing findings, that no further investigation be undertaken. However, during the patient's stay in the hospital the nurses continued to note frequent loss of balance. A CAT scan on October 21, 1975 (Fig 1,2) revealed an extracerebral mass of increased density in the middle cerebral fossa compatible with epidural hematoma. On October 24, 1975 a left frontotemporal craniotomy was performed. A small amount of subgaleal blood was found overlying the skull fracture. When the bone flap was turned, a brownish-greenish membrane was found encapsulating a chronic epidural hematoma. The collection extended under the temporal as well as the frontal lobe. The membrane was $2\frac{1}{2}$ to 3 millimeters thick and had the same appearance as that of a chronic subdural hematoma. The overall thickness of the hematoma was between $2\frac{1}{2}$ to 3 centimeters. No specific area of bleeding was found. The postoperative course was unremarkable, and the patient was discharged on the ninth postoperative day.

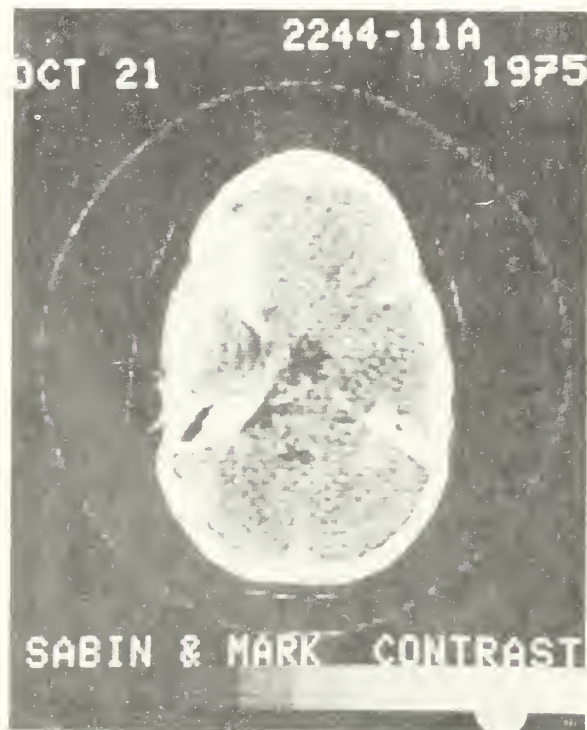


Figure I The bulk of the epidural collection is shown as a high density mass in the frontotemporal region.

Pathological Findings

Sections of the hematoma revealed fibrillary organization with areas of fibroblastic proliferation and new capillary formation. Hemosiderin was present in macrophages. Small areas of newly formed ossification were identified.

Discussion

There is very little comment in textbooks concerning chronic epidural hematomas. Consequently, few cases have been reported. The shortest interval termed "chronic" was four days¹ and the longest six years². Except for these two extremes, the period most often reported varies from ten to twenty days, with two cases exceeding one month^{1 3 4 5} and one case two-and-a-half months⁶. In the case reported by Grant² an intracranial lesion was present, and previous surgery had been performed making unclear the relationship with trauma six years prior to the second operation. Except for this case, ours has the longest reported interval.

We are of the opinion that the existence of calcification in the membrane justifies the term "chronic", and this certainly applies to the present case. No ossification was found in

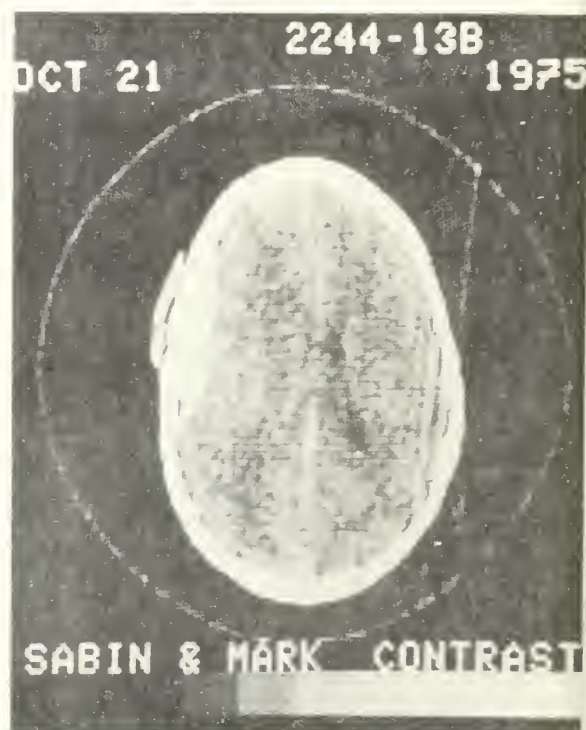


Figure II An associated subgaleal collection overlies the epidural hematoma.

a chronic hematoma as early as thirteen days after onset.⁶ Calcification visible by x-ray, however, was reported in only one case of two-and-one-half months' duration.⁷ According to Iwakuma⁶ capsule formation takes about five weeks.

Ages of patients with chronic epidural hematoma vary widely in the literature. It appears that this distribution is not different from that of cases of acute epidural hematoma and probably reflects an age group which is more susceptible to trauma, although Iwakuma found the incidence of chronic epidural hematoma to be increased in patients under age forty.⁶ In six cases of chronic epidural hematoma under twelve years of age Iwakuma et al⁶ found a large subgaleal hematoma on four occasions. It appears that this leakage phenomenon is singular to children. Decompression of the epidural hematoma through the fracture line may offer a partial explanation for the absence of a neurological deficit and the duration of evolution of symptoms in our case.

The discrepancy between the percentage of extradural hematomas found at surgery (2-5 per cent) and at autopsy (12-20 per cent) has already been emphasized by others.⁸

Many cases must certainly remain undiagnosed. As noted by Avol⁸, it is interesting to conjecture regarding the number of cases of "post-concussion syndrome" with its attendant headache, which may be due to the presence of an unrecognized extradural clot. One would certainly hesitate to subject a patient without focal findings to angiography or exploratory burr holes.⁸ In cases with persistent headaches, ill-defined neurological complaints, or both following a head trauma, a CAT scan may be indicated to rule out a chronic epidural collection.

Since surgery is uniformly successful in published cases², the operative procedure should not be unduly delayed, and an accurate diagnosis as early as possible in the course of the disease is mandatory. Craniotomy is the treatment of choice⁹ since, as defined by Askenasy⁴, evacuation cannot be performed through burr holes.

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One Sentence Essay

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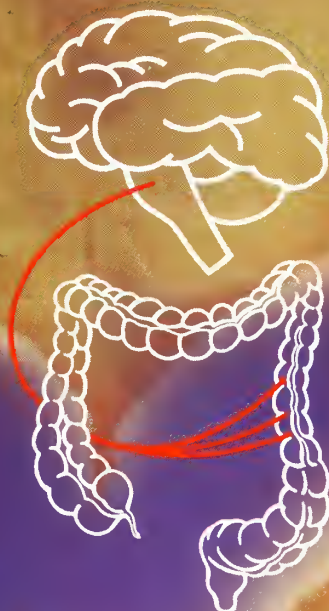
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Editorials

Medical Care Costs and Ancillary Services

The problem of the cost of medical care will not go away. As we have noted on several occasions in these columns, ancillary services are a significant component of medical care costs — laboratory, x-ray, physical therapy, respiratory services, and the like. We have maintained consistently that the hospitals and the medical academic community have a serious responsibility to become involved. So far the response has been notably cool.

Blue Cross and Blue Shield have recently ordered their member plans to phase out payment for certain routine diagnostic tests for non-surgical patients, unless specifically ordered by a physician. Payment will be denied for routine "admission batteries", ie tests ordered automatically on all hospital patients on admission. These include electrocardiograms, chest x-ray films, urinalysis, hemoglobin, and biochemical screens. Furthermore, 26 specific laboratory procedures have been designated as "outmoded, unnecessary, unreliable, or of no proven value". Included, among others, are basal metabolism, icterus index, cephalin flocculation, thymol turbidity, and protein bound iodine, all of which have been superseded by more effective procedures. This project supplements the recent Medical Necessity Project on obsolete surgical procedures.

The clamor for cost saving education has been anything but deafening, either locally or nationally. There are, however, some encouraging signs of activity. The University of Oregon School of Medicine supported by a \$100,000 grant from Blue Shield of Oregon

has undertaken an attractive cost education program. Involving medical students and house officers, the course embraces health insurance, malpractice insurance, preventive health measures, and notably the utilization of medical and hospital services. The program is believed to be the first in the country in which private funds are utilized to support cost education for future "providers".

The *Providence Journal* commenting editorially on the Blue Cross-Blue Shield Medical Necessity Project recently stated (February 12, 1979): "The Blues have decided it is time to sensitize physicians to the cost of procedures and drugs they requisition." It is difficult to take exception to the implication that the time has arrived. If the medical profession itself reaches a consensus as to what is necessary and what is not, the fear of malpractice suits can be put in proper perspective. A good sample is the need for the elimination of routine skull x-ray films in head injury cases.

It is high time that the academic community and the teaching hospitals in Rhode Island undertake a three-way program to determine the extent of overutilization of ancillary services, to educate the active members of the profession as to the need for restraint, and to indoctrinate those in training that the streets are not paved with gold.

If these responsibilities are not undertaken voluntarily and with good grace, Big Brother is waiting in the wings. Here is a golden opportunity for the medical school and hospitals in this City-State to show the way.

Avoid the Factors That Have Damaged Labor's Political Clout

The AMA must avoid the internal damage that has rendered organized labor much less effective in the nation's capitol than might be judged from the publicity its leaders receive.

"Big labor isn't very big anymore," according to columnist Nicholas von Hoffman and in fact "the labor lobby has come down with pernicious anemia." He added: "Without a

kick . . . of the kind unions can no longer deliver, labor must suffer increasing rejection from the national government. The last session of Congress saw organized labor lose almost everything it wanted, in particular the labor-law reform bill." The bill in question would have been a powerful weapon for the unions in their organizing campaigns.

As the primary reason for the loss of clout, von Hoffman notes the falloff in union membership to only 20 per cent of the labor force. "Since 1974, unions have lost more than half a million members, while in the same period the economy added 6 million new jobs." Other observers have also taken cognizance of this trend and have speculated upon its effect on organized labor's influence.

The lack of unity in the union movement could well be an additional reason. The only three unions with more than a million members (according to the 1978 World Almanac) — the Teamsters, United Auto Workers, and National Education Association — are unaffiliated with the AFL-CIO.

In contrast with organized labor the AMA has been effective in Congress and has improved its relations with the White House. To remain effective it must grow in membership in proportion to the total number of eligible physicians and also in unified membership.

In the 1977-78 Congress, the AMA federation was instrumental in the death of such offensive bills as:

- A bill to extend Federal Trade Commission jurisdiction to non-profit organizations, which would include the AMA, its component societies, and medical-specialty societies. Along with eliminating Congressional sanction of the FTC's current anti-trust action against physician solicitation of patients, the bill's death is likely to help if the FTC administrative judge's adverse ruling on the issue has to be carried as far as the federal court.

- A Health Planning Act amendment that would have extended certificate-of-need provisions to purchase of new equipment by physicians' offices.

- Mandatory cost containment, as contrasted with the Voluntary Effort advanced by the AMA, the American Hospital Association, and the Federation of American

Hospitals, with the support of the state societies.

- The proposed Clinical Laboratory Improvement Act, which would have set national standards for the training of lab technicians and harassed lab procedures in many physicians' offices.

- The drug regulation reform bill, which would have further muddled the development, distribution, and use of beneficial drugs.

We must sustain our impact by working for membership growth and unity, both of which are essential to that goal.

Did You Know?

In 1849 the Rhode Island Medical Society passed the following resolution: "Whereas the Legislature of this State having, at the present session, passed to a second reading certain resolutions touching the important question of Registration of Births, Deaths, & Marriages, and ...[having named] a committee . . . [to confer] with this Society; It is therefore resolved that a special committee of three be appointed to confer with the Legislative Committee and report at the ensuing semi-annual meeting of this Society."

The committee recommended that: 1. Clergymen, justices of the peace, and others "capable under the statutes to solemnize the marriage rite" be requested to report same; 2. the laws of 1844 requiring parents to report births be enforced, and that a municipal officer in each city or town be appointed to secure and keep records; 3. the law in effect in Providence regarding registration of deaths be made statewide; undertakers be permitted to call upon physicians for such reports; and 4. blanks be provided for all of the preceding.

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Contraindications: Further use in anuria, progressive renal or hepatic dysfunction, hyperkalemia. Pre-existing elevated serum potassium. Hypersensitivity to either component or other sulfonamide-derived drugs.

Warnings: Do not use potassium supplements, dietary or otherwise, unless hypokalemia develops or dietary intake of potassium is markedly impaired. If supplementary potassium is needed, potassium tablets should not be used. Hyperkalemia can occur, and has been associated with cardiac irregularities. It is more likely in the severely ill, with urine volume less than one liter/day, the elderly and diabetics with suspected or confirmed renal insufficiency. Periodically, serum K⁺ levels should be determined. If hyperkalemia develops, substitute a thiazide alone, restrict K⁺ intake. **Associated widened QRS complex or arrhythmia requires prompt additional therapy.** Thiazides cross the placental barrier and appear in cord blood. Use in pregnancy requires weighing anticipated benefits against possible hazards, including fetal or neonatal jaundice, thrombocytopenia, other adverse reactions seen in adults. Thiazides appear and triamterene may appear in breast milk. If their use is essential, the patient should stop nursing. Adequate information on use in children is not available.

Precautions: Do periodic serum electrolyte determinations (particularly important in patients vomiting excessively or receiving parenteral fluids). Periodic BUN and serum creatinine determinations should be made, especially in the elderly, diabetics or those with suspected or confirmed renal insufficiency. Watch for signs of impending coma in severe liver disease. If spiro-lactone is used concomitantly, determine serum K⁺ frequently; both can cause K⁺ retention and elevated serum K⁺. Two deaths have been reported with such concomitant therapy (in one, recommended dosage was exceeded, in the other serum electrolytes were not properly monitored). Observe regularly for possible blood dyscrasias, liver damage, other idiosyncratic reactions. Blood dyscrasias have been reported in patients receiving triamterene, and leukopenia, thrombocytopenia, agranulocytosis, and aplastic anemia have been reported with thiazides. Triamterene is a weak folic acid antagonist. Do periodic blood studies in cirrhotics with splenomegaly. Antihypertensive effect may be enhanced in post-sympathectomy patients. Use cautiously in surgical patients. The following may occur: transient elevated BUN or creatinine or both, hyperglycemia and glycosuria (diabetic insulin requirements may be altered), hyperuricemia and gout, digitalis intoxication (in hypokalemia), decreasing alkali reserve with possible metabolic acidosis. 'Dyazide' interferes with fluorescent measurement of quinidine.

Adverse Reactions: Muscle cramps, weakness, dizziness, headache, dry mouth, anaphylaxis, rash, urticaria, photosensitivity, purpura, other dermatological conditions, nausea and vomiting, diarrhea, constipation, other gastrointestinal disturbances. Necrotizing vasculitis, paresthesias, icterus, pancreatitis, xanthopsia and, rarely, allergic pneumonitis have occurred with thiazides alone.

Supplied: Bottles of 100 and 1000 capsules, Single Unit Packages of 100 (intended for institutional use only).

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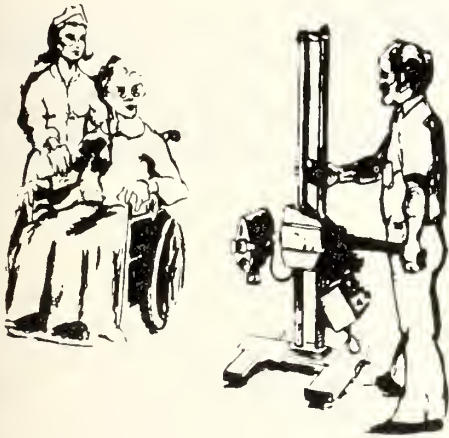


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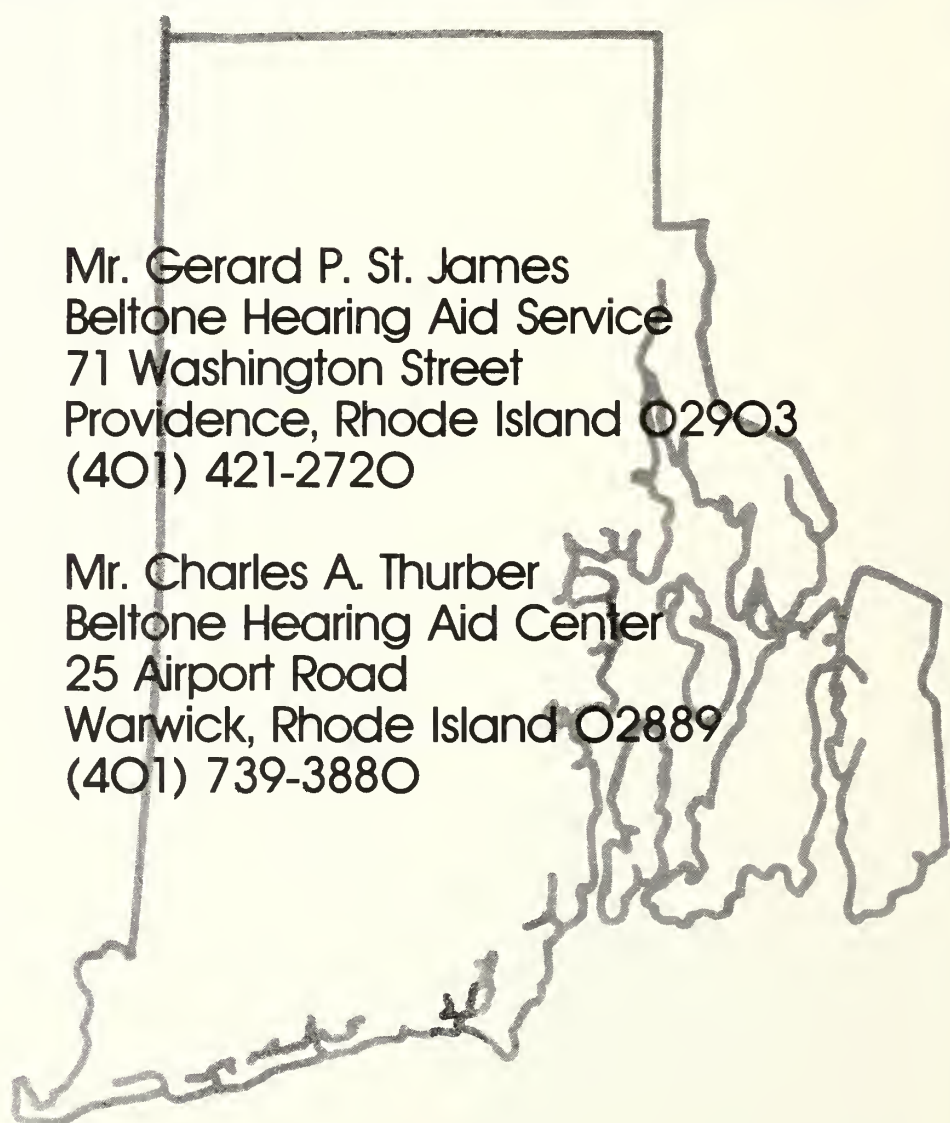
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in the functional bowel/irritable bowel syndrome*

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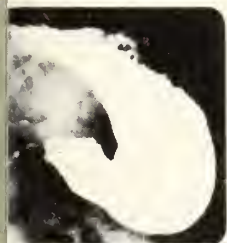
10 mg. capsules, 20 mg. tablets,
10 mg./5 ml. syrup, 10 mg./ml. injection

helps control abnormal motor activity
with minimal anticholinergic side effects†

Demonstrated smooth muscle relaxant activity.

In this double-blind study, twenty patients having G.I. series and exhibiting
spasm were randomly selected to receive either 2 cc. of Bentyl or sodium
chloride intramuscularly. Ten minutes after the injection another radiograph
was taken . . .

. . . Bentyl produced definite relaxation in 8 of 10 patients. The sodium chloride
produced relaxation in only 3 of 10. No side effects occurred in either group of patients.



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passage of barium
meal.



Barium meal beginning
to pass 10 minutes
after intramuscular
injection of 20 mg. Bentyl.

"The correlation of spasm relief and drug given was excellent."

*This drug has been classified "probably" effective in treating
functional bowel/irritable bowel syndrome

†See Warnings, Precautions and Adverse Reactions.

See following page for prescribing information.

Reference:

King, J.C. and Starkman, N.M.: Evaluation of an antispasmodic.
Double-blind evaluation to control gastrointestinal spasms
occurring during radiographic examination. A preliminary report.
Western Med. 5:356-358, 1964

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Brief Summary

INDICATIONS

Based on a review of this drug by the National Academy of Sciences—National Research Council and/or other information, FDA has classified the following indications as "probably" effective:

For the treatment of functional bowel/irritable bowel syndrome (irritable colon, spastic colon, mucous colitis) and acute enterocolitis.

THESE FUNCTIONAL DISORDERS ARE OFTEN RELIEVED BY VARYING COMBINATIONS OF SEDATIVE, REASSURANCE, PHYSICIAN INTEREST, AMELIORATION OF ENVIRONMENTAL FACTORS.

For use in the treatment of infant colic (syrup).

Final classification of the less-than-effective indications requires further investigation.

CONTRAINDICATIONS: Obstructive uropathy (for example, bladder neck obstruction due to prostatic hypertrophy), obstructive disease of the gastrointestinal tract (as in achalasia, pyloroduodenal stenosis), paralytic ileus, intestinal atony of the elderly or debilitated patient, unstable cardiovascular status in acute hemorrhage, severe ulcerative colitis, toxic megacolon complicating ulcerative colitis, myasthenia gravis. **WARNINGS:** In the presence of a high environmental temperature, heat prostration can occur with drug use (fever and heat stroke due to decreased sweating). Diarrhea may be an early symptom of incomplete intestinal obstruction, especially in patients with ileostomy or colostomy. In this instance treatment with this drug would be inappropriate and possibly harmful. Bentyl may produce drowsiness or blurred vision. In this event, the patient should be warned not to engage in activities requiring mental alertness such as operating a motor vehicle or other machinery or perform hazardous work while taking this drug. **PRECAUTIONS:** Although studies have failed to demonstrate adverse effects of dicyclomine hydrochloride in glaucoma or in patients with prostatic hypertrophy, it should be prescribed with caution in patients known to have or suspected of having glaucoma or prostatic hypertrophy. Use with caution in patients with Autonomic neuropathy. Hepatic or renal disease. Ulcerative colitis. Large doses may suppress intestinal motility to the point of producing a paralytic ileus and the use of this drug may precipitate or aggravate the serious complication of toxic megacolon. Hyperthyroidism, coronary heart disease, congestive heart failure, cardiac arrhythmias, and hypertension. Hiatal hernia associated with reflux esophagitis since anticholinergic drugs may aggravate this condition.

Do not rely on the use of the drug in the presence of complication of biliary tract disease. Investigate any tachycardia before giving anticholinergic (atropine-like) drugs since they may increase the heart rate. With overdosage, a curare-like action may occur. **ADVERSE REACTIONS:** Anticholinergics/antispasmodics produce certain effects which may be physiologic or toxic depending upon the individual patient's response. The physician must delineate these. Adverse reactions may include xerostomia, urinary hesitancy and retention, blurred vision and tachycardia, palpitations, mydriasis, cycloplegia, increased ocular tension, loss of taste, headache, nervousness, drowsiness, weakness, dizziness, insomnia, nausea, vomiting, impotence, suppression of lactation, constipation, bloated feeling, severe allergic reaction or drug idiosyncrasies including anaphylaxis, urticaria and other dermal manifestations, some degree of mental confusion and/or excitement, especially in elderly persons, and decreased sweating. With the injectable form there may be a temporary sensation of lightheadedness and occasionally local irritation. **DOSEAGE AND ADMINISTRATION:** Dosage must be adjusted to individual patient's needs.

Usual Dosage: Bentyl 10 mg capsule and syrup. **Adults:** 1 or 2 capsules or teaspoonfuls syrup three or four times daily. **Children:** 1 capsule or teaspoonful syrup three or four times daily. **Infants:** ½ teaspoonful syrup three or four times daily. (May be diluted with equal volume of water.) Bentyl 20 mg. **Adults:** 1 tablet three or four times daily. Bentyl Injection. **Adults:** 2 ml. (20 mg.) every four to six hours intramuscularly only. **NOT FOR INTRAVENOUS USE.** **MANAGEMENT OF OVERDOSE:** The signs and symptoms of overdose are headache, nausea, vomiting, blurred vision, dilated pupils, hot, dry skin, dizziness, dryness of the mouth, difficulty in swallowing, CNS stimulation. Treatment should consist of gastric lavage, emetics, and activated charcoal. Barbiturates may be used either orally or intramuscularly for sedation but they should not be used if Bentyl with Phenobarbital has been ingested. If indicated, parenteral cholinergic agents such as Urecholine[®] (bethanechol chloride USP) should be used.

Product Information as of October, 1978

Injectable dosage forms manufactured by CONNAUGHT LABORATORIES, INC., Swiftwater, Pennsylvania 18370 or TAYLOR PHARMACAL COMPANY, Ocatour, Illinois 62525 for MERRELL NATIONAL LABORATORIES, Division of Richardson-Merrell Inc., Cincinnati, Ohio 45215, U.S.A.

Editor's Mailbox

To the Editor:

The representative to the House of Delegates of The Rhode Island Medical Society from the Rhode Island Society of Internal Medicine is Dr. Frank Duffy, and not Dr. Guy Settignano, as reported on page 26 of the January issue (Vol. 61, No. 1).

Henry F. Izeman, MD

Correction noted. Ed.

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RHODE ISLAND MEDICAL JOURNAL

Rhode Island Medical Journal

April, 1978

Vol. 62, No. 4

DISPLAY
ELVES



Clinical Papers

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PEDIATRIC INDICATIONS*
FOR BACTRIM CONTINUE
TO GROW...

*URINARY TRACT
INFECTIONS*

*PNEUMOCYSTIS
CARINII
PNEUMONITIS*

SHIGELLOSIS

*ACUTE OTITIS
MEDIA*

**Involving susceptible organisms.*

Please see Indications section in summary of product information on last page of this advertisement.

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*Not indicated in children under 2 months of age.

Please see summary of product information on following page.

BACTRIM

(trimethoprim and sulfamethoxazole)



Before prescribing, please consult complete product information, a summary of which follows:

Indications and Usage: For the treatment of urinary tract infections due to susceptible strains of the following organisms: *Escherichia coli*, *Klebsiella Enterobacter*, *Proteus mirabilis*, *Proteus vulgaris*, *Proteus morganii*. It is recommended that initial episodes of uncomplicated urinary tract infections be treated with a single effective antibacterial agent rather than the combination. *Note:* The increasing frequency of resistance for gram-negative bacilli, especially in the urinary tract infections.

For acute otitis media in children due to susceptible strains of *Haemophilus influenzae* or *Streptococcus pneumoniae* when in physician's judgment it offers an advantage over other antimicrobials. Limited clinical information presently available on effectiveness of treatment of otitis media with Bactrim when infection is due to ampicillin-resistant *Haemophilus influenzae*. To date, there are limited data on the safety of repeated use of Bactrim in children under two years of age. Bactrim is not indicated for prophylactic or prolonged administration in otitis media at any age.

For enteritis due to susceptible strains of *Shigella flexneri* and *Shigella sonnei* when antibacterial therapy is indicated.

Also for the treatment of documented *Pneumocystis carinii* pneumonitis. To date, this drug has been tested only in patients 9 months to 16 years of age who were immunosuppressed by cancer therapy.

Contraindications: Hypersensitivity to trimethoprim or sulfonamides; pregnancy; nursing mothers; infants less than two months of age.

Warnings: BACTRIM SHOULD NOT BE USED TO TREAT STREPTOCOCCAL PHARYNGITIS. Clinical studies show that patients with group A hemolytic streptococcal tonsillitis/pharyngitis have higher incidence of bacteriologic failure when treated with Bactrim than do those treated with penicillin. Deaths from hypersensitivity reactions, agranulocytosis, aplastic anemia and other blood dyscrasias have been associated with sulfonamides. Experience with trimethoprim is much more limited but occasional interference with hematopoiesis has been reported as well as an increased incidence of thrombopenia with purpura in elderly patients on certain diuretics, primarily thiazides. Sore throat, fever, pallor, purpura or jaundice may be early signs of serious blood disorders. Frequent CBC's are recommended; therapy should be discontinued if a significantly reduced count of any formed blood element is noted.

Precautions: Use cautiously in patients with impaired renal or hepatic function; possible folate deficiency; severe allergy or bronchial asthma. In patients with glucose 6-phosphate dehydrogenase deficiency hemolysis frequently dose-related may occur. During therapy maintain adequate fluid intake and perform frequent urinalyses with careful microscopic examination and renal function tests, particularly where there is impaired renal function. Bactrim may prolong prothrombin time in those receiving warfarin; reassess coagulation time when administering Bactrim to these patients.

Adverse Reactions: All major reactions to sulfonamides and trimethoprim are included, even if not reported with Bactrim. *Blood dyscrasias:* Agranulocytosis, aplastic anemia, megaloblastic anemia, thrombopenia, leukopenia, hemolytic anemia, purpura, hypoprothrombinemia and methemoglobinemia. *Allergic reactions:* Erythema multiforme, Stevens-Johnson syndrome, generalized skin eruptions, epidermal necrolysis, urticaria, serum sickness, pruritus, exfoliative dermatitis, anaphylactoid reactions, periorbital edema, conjunctival and scleral injection, photosensitization, arthralgia and allergic myocarditis. *Gastrointestinal reactions:* Glossitis, stomatitis, nausea, emesis, abdominal pains, hepatitis, diarrhea and pancreatitis. *CNS reactions:* Headache, peripheral neuritis, mental depression, convulsions, ataxia, hallucinations, tinnitus, vertigo, insomnia, apathy, fatigue, muscle weakness and nervousness. *Miscellaneous reactions:* Drug fever, chills, toxic nephrosis with oliguria and anuria, periarteritis nodosa and L.E. phenomenon. Due to certain chemical similarities to some goitrogens, diuretics (acetazolamide, thiazides) and oral hypoglycemic agents, sulfonamides have caused rare instances of goiter production, diuresis and hypoglycemia in patients; cross-sensitivity with these agents may exist. In rats, long-term therapy with sulfonamides has produced thyroid malignancies.

Dosage: Not recommended for infants less than two months of age.

URINARY TRACT INFECTIONS AND SHIGELLOSIS IN ADULTS AND CHILDREN, AND ACUTE OTITIS MEDIA IN CHILDREN

Adults: Usual adult dosage for urinary tract infections: 1 DS tablet (double strength), 2 tablets (single strength) or 4 teasp (20 ml) b.i.d. for 10-14 days. Use identical daily dosage for 5 days for shigellosis.

Children: Recommended dosage for children with urinary tract infections or acute otitis media: 8 mg/kg trimethoprim and 40 mg/kg sulfamethoxazole per 24 hours, in two divided doses for 10 days. Use identical daily dosage for 5 days for shigellosis. A guide follows. *Children two months of age or older*

Weight		Dose—every 12 hours	
lbs	kgs	Teaspoonfuls	Tablets
22	10	1 teasp (5 ml)	1/2 tablet
44	20	2 teasp (10 ml)	1 tablet
66	30	3 teasp (15 ml)	1 1/2 tablets
88	40	4 teasp (20 ml)	2 tablets or 1 DS tablet

For patients with renal impairment

Creatinine Clearance (ml/min)	Recommended Dosage Regimen
Above 30	Usual standard regimen
15-30	1/2 the usual regimen
Below 15	Use not recommended

PNEUMOCYSTIS CARINII PNEUMONITIS: Recommended dosage: 20 mg/kg trimethoprim and 100 mg/kg sulfamethoxazole per 24 hours in equal doses every 6 hours for 14 days. See complete product information for suggested children's dosage table.

Supplied: Double Strength (DS) tablets: each containing 160 mg trimethoprim and 800 mg sulfamethoxazole; bottles of 100. Tel-E-Dose* packages of 100. Prescription Paks of 20 Tablets, each containing 80 mg trimethoprim and 400 mg sulfamethoxazole—bottles of 100 and 500. Tel-E-Dose* packages of 100. Prescription Paks of 40, available singly and in trays of 10. Pediatric Suspension: containing in each teaspoonful (5 ml) the equivalent of 40 mg trimethoprim and 200 mg sulfamethoxazole; cherry flavored—bottles of 16 oz (1 pint). Suspension, containing in each teaspoonful (5 ml) the equivalent of 40 mg trimethoprim and 200 mg sulfamethoxazole; fruit-licorice flavored—bottles of 16 oz (1 pint).



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- April 4-7 **Tennessee Medical Association**
Airport Milton Inn
Memphis, Tennessee
- April 19-21 **Alabama Medical Association**
Birmingham Hyatt House, Civic Center
Birmingham, Alabama
- April 19-22 **Missouri State Medical Association**
Chase-Park Plaza Hotel
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- April 20-22 **Georgia Medical Association**
De Soto Hilton
Savannah, Georgia
- April 21-22 **Iowa Medical Society**
Hyatt House
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- April 22-25 **Arkansas Medical Society**
Little Rock Convention Center
Little Rock, Arkansas
- April 25-29 **Arizona Medical Association**
Safari Hotel
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- April 26-29 **South Carolina Medical Association**
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- April 29-May 2 **Nebraska Medical Association**
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Rhode Island Medical Journal

APRIL, 1979

(ISSN 0363 - 7913)

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Rhode Island Medical Society

NEWSLETTER

James R. Clarkin, Editor

April, 1979

Superior Court Examines Malpractice Act

Rhode Island's Malpractice Act has recently been held up to scrutiny by the Superior Court. The issue of the constitutionality of the Act arose in the course of three separate legal cases, all of which could not be resolved without, first, a ruling on this issue. The Court considered the points of the plaintiffs of these cases together before coming to its decision — that the act is constitutional.

The plaintiffs' attacks were multi-faceted. One argument was that, because the findings of the mediation panel provided for by the Act are admissible in evidence in a malpractice trial, the traditional province of the jury has been invaded, and the mediation panel is thus a violation of the right to a trial by jury. Further it was argued against the panel the fact that plaintiffs are not permitted to cross-examine and confront mediation panel members; and, also, because the panel's findings are admissible as evidence in a court of law, that they are not allowed to attack the findings on the grounds of bias, arbitrariness, error and the like.

Another point of challenge to the Act was on the grounds that the special kind of review provided by the mediation panel violates the Equal Protection clause of the fourteenth amendment of the Constitution.

The last major contention of the plaintiffs was that the Act violates the Rhode Island Constitution as an improper delegation of judicial authority.

The Rhode Island Superior Court, with Judge Joseph K. Murray presiding, upheld the Malpractice Act and its provision for a mediation panel against these complaints. Judge Murray states in his decision that the mediation panel does not interfere on the basic right to a jury trial: "The jury is not to give the findings such weight as it deems proper. It is not bound by the panel's findings nor is it obligated to accord them any greater weight

than the other evidence before it." As for plaintiffs' right to make allegations concerning suspected fraud and the like, she says: "It is the conviction of this Court that there is nothing in the Act which prohibits plaintiffs from asserting these allegations at trial. A full trial *de novo*, at which plaintiffs may make all their allegations, is afforded under the Act."

The decision defends the Act on the Equal Protection clause issue also. The Equal Protection clause is not violated, the decision states, since the special provisions which apply to malpractice claimants as compared with other tort claimants has a "rational relationship" (the historical test in Equal Protection cases) to the purpose of the Malpractice Act, which is the protection of the public health and welfare.

And, finally, in the opinion of the Superior Court, the mediation panel does not represent an improper delegation of judicial authority: "The crucial element of judicial power is the authority to render a judgment and to enforce it. If the findings of a board or commission are subject to review or appeal, the decisions are not judgments or decrees, and delegation to them of the duty to find facts and apply law is not an unauthorized delegation of a judicial function."

Judge Murray has informed the Society that there is an additional need for physicians, in all specialties, who are willing to serve on mediation panels. This need has arisen mainly because physicians are appointed to a panel and then refuse to serve because they are too close and/or friendly with the physician involved, or the meeting date interferes with the physician's schedule, or that of the attorney, etc.

We urge that you seriously consider indicating your willingness to serve. The decisions rendered to date have been favorable to the physician involved, and, in addition, all parties involved in the Joint Underwriting Association's request for a rate increase agree that decisions rendered by these panels will eventually have great impact on the malpractice insurance rate. Please submit your name by calling the Executive Office (331-3207, 331-3208).

Peripatetics

New chief of the section of Gastroenterology of St. Joseph's Hospital, Providence and Fatima Units is **Raymond E. Moffitt, MD**.

Blas Moreno, MD recently received the Outstanding Citizenship Award of the International Institute of Rhode Island.

Recently elected officers of the Rhode Island Neurosurgical Society are President **Paul Bernstein, MD** and Secretary-Treasurer **Paul T. Welch, MD**. **David M. Barry, MD** is Vice President for another term and is also the Society's delegate to the Socio-economic Committee of the New England Neurosurgical Society. **Walter C. Cotter, MD** is delegate to the Rhode Island Medical Society.

The Rhode Island Otolaryngological Society has elected the following officers for the upcoming year: **James J. Murdocco, MD**, President; **Mary D. Lekas, MD**, Vice President; **Peter T. Nigri, MD**, Secretary-Treasurer.

The Rhode Island Federation of Garden Clubs recently presented a citation to **Mendell Robinson, MD** "... for his love of natural beauty and his ability to interpret it so uniquely and artistically".

Michael E. Scala, MD and **A. Louis Mariorenzi, MD** will present a paper on "Treatment of Complex Fractures of the Femur with the Fluted Intramedullary Nail" at the 6th World Congress of the Western Pacific Orthopaedic Association in Taipei, Taiwan.

President of the Rhode Island Medical Society, **Joseph E. Caruolo, MD**, was honored guest of the recent annual New England Regional Convention of Medical Assistants.

P. Joseph Pesare, MD, Director of the Division of Medical Services of the Rhode Island State Department of Social and Rehabilitative Services, and 1st President of the American Association of State Public Welfare and Medicaid Directors, was honored by the National Council of State Medicaid Directors at their 11th annual conference held recently in San Diego.

The Twentieth Annual Ben Fish Memorial Award has been presented to **Francis B. Sargent, MD** for

his inspiring work in the field of communicable disorders.

Irving A. Beck, MD was elected President of the American Osler Society at its recent Annual Meeting.

Guest of honor of the annual dinner-dance of the Rhode Island chapter of the National Foundation for Ileitis and Colitis was **Henry T. Randall, MD**.

Two-Lined Prescription Forms

With the passage of 78-H7422 during the legislative session, every prescription slip issued by a physician must contain two lines for the practitioner's signature. Under one line shall be the words "dispense as written" and under the second line shall be the words "substitution not allowed".

The law mandates that every physician use the prescription form or be fined the sum of \$100 for each violation.

Teamsters, Local # 251 Seeking Physicians

The Teamsters, Local # 251 is seeking the names of five (5) physicians specializing in cardiovascular diseases to act in an impartial manner by conducting a full examination and submitting a written opinion. This is needed for a third opinion and will be final and binding on all concerned parties. If you are interested, please contact the Executive Office (331-3207, 331-3208).

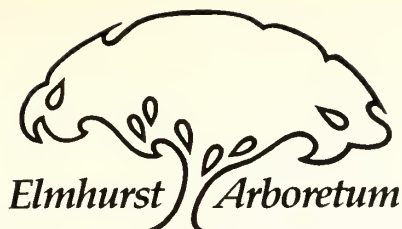
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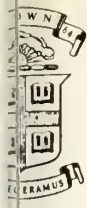


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DIVISION OF BIOLOGY AND MEDICINE

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A Message from the Dean

Internships Obtained by the Brown University Medical Students, Class of 1979

Brown University Program in Medicine will graduate its fifth class of physicians in June of 1979. The 60 men and women of this Brown senior class recently participated (with approximately 15,000 other senior medical students) in competing for internship positions. There is obviously a great deal of competition in the process (since there are substantially more applicants than places in the much sought after institutions), and a nationwide selection mechanism (the National Resident Matching Program with headquarters in Evanston, Illinois) is the means by which the preferences of both applying medical students and hospitals are reconciled.

All 60 of our senior medical students were matched. (6.8 per cent of all students, this year, went unmatched.) The hospital assignments for the 60 Brown University medical seniors are listed below. Unless obvious, the medical school affiliation is indicated parenthetically.

California (8)

Los Angeles County — USC Ctr — 3
Santa Clara Valley Ctr (Stanford) — 1
St. Mary's Hosp, San Francisco (U Cal) — 1
LA County Harbor Gen Hosp (UCLA) — 1
Letterman Gen Hosp (U Cal) — 1
Natividad Med Ctr (U Cal) — 1

Connecticut (3)

Yale-New Haven Med Ctr — 1
St. Francis Hosp (U Conn) — 1
Institute of Living (U Conn) — 1

District of Columbia (2)

Walter Reed General Hosp (Unif Serv U) — 1

Providence Hospital (Georgetown) — 1

Georgia (2)

Grady Mem Hosp (Emory) — 2

Illinois (2)

Northwestern Hosp — 2

Louisiana (1)

Ochsner Foundation Hosp (Tulane) — 1

Maryland (2)

Johns Hopkins Hosp — 2

Massachusetts (5)

Berkshire Med Ctr (U Mass) — 2

Newton-Wellesley Hosp (Tufts) — 2

U Mass Hosp — 1

Missouri (2)

Barnes Hosp (Washington U) — 1

St. Louis Childrens Hosp (Washington U) — 1

New Jersey (1)

Somerset Hosp (Rutgers) — 1

New York (13)

Columbia-Presbyt Med Ctr (Columbia) — 2

State Univ Hosp (SUNY) — 1

Strong Mem Hosp (Rochester) — 1

Harlem Hosp (Columbia) — 2

NYU-Bellevue Hosp — 2

Mount Sinai Hosp — 1

Roosevelt Hosp (Columbia) — 1

U Rochester Hosp — 1

Albany Med Ctr — 1

NY Med Coll Hosp — 1

North Carolina (3)

Duke U Med Ctr — 1

North Carolina Mem Hosp (U N Car) — 2

Ohio (1)

Univ Hosp (Case-West Reserve) — 1

Pennsylvania (4)

Hosp U Pa — 2

Hahnemann Med Coll Hosp — 1
 Thomas Jefferson U Hosp — 1
Rhode Island (10)
 Memorial Hosp (Brown) — 1
 Miriam Hosp (Brown) — 4
 Rhode Island Hosp (Brown) — 4
 Roger Williams Gen Hosp (Brown) — 1
Virginia (1)
 Med Coll Virginia Hosp — 1

Virtually all of the internships above are categorical (i.e., confined to one specialty). The internship specialty distribution for all of the five medical school classes which have

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433-4111

Table 1

Internships Obtained by Brown Graduates: Specialty Distribution, Classes of 1975-1979

Specialty	Graduating Class of:				
	1975	1976	1977	1978	1979
Internal Medicine	27	33	24	33	31
Family Medicine	4	4	12	9	4
Pediatrics	11	7	3	11	8
Surgery	10	5	13	6	6
Psychiatry	1	1	3	1	2
Obstetrics & Gynecology	2	3	2	3	5
Other	3	7	3	0	4

Total Graduates 58 60 60 63 60

Table 2

Internships Obtained by Brown Graduates: Regional Distribution, Classes of 1975-1979

Region	Graduating Class of:				
	1975	1976	1977	1978	1979
Rhode Island	26	17	10	13	10
New England, other ...	7	12	8	7	8
Middle Atlantic States..	14	9	25	23	22
South	0	3	3	7	7
Mid-West	6	8	7	9	5
Southwest	0	0	1	0	0
West	5	11	6	4	8

Total Graduates 58 60 60 63 60

been graduated from Brown is indicated in Table 1. The majority of Brown graduates continue to apply for internships in primary care medicine (i.e., internal medicine, family medicine, pediatrics).

The geographic distribution of internships is summarized in Table 2. The Brown University affiliated hospitals continue to attract a substantial fraction of our graduates. (76 out of 301 graduates have elected local internships, this number representing about 25 per cent of our total pool of Brown medical graduates.)

The roster of hospitals where the 1979 Brown graduates will train contains some of the most illustrious centers for graduate medical education in the United States.

Stanley M. Aronson, MD
 Dean of Medicine
 Brown University

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INDICATIONS: Therapeutically, (as an adjunct to systemic therapy when indicated), for topical infections, primary or secondary, due to susceptible organisms, as infected burns, skin grafts, surgical incisions, otitis externa; primary pyodermas (impetigo, ecthyma, pyoderma vulgaris, paronychia); secondarily infected dermatoses (eczema, herpes, and seborrheic dermatitis); traumatic lesions, inflamed or suppurating as a result of bacterial infection. Prophylactically, the

Ointment may be used to prevent bacterial contamination in burns, skin grafts, incisions, and other clean lesions. For abrasions, minor cuts and wounds accidentally incurred, its use may prevent the development of infection and permit wound healing.

CONTRAINDICATIONS: This product is contraindicated in those individuals who have shown hypersensitivity to any of its components. Do not use in the eyes or in the external ear canal if the eardrum is perforated.

WARNING: Because of the potential hazard of nephrotoxicity and ototoxicity due to neomycin, care should be exercised when using this product in treating extensive burns, trophic ulceration and other extensive conditions where absorption of neomycin is possible. In burns where more than 20 percent of the body surface is affected, especially if the patient has impaired renal function or is receiving other aminoglycoside antibiotics concurrently, not more than one application a day is recommended.

When using neomycin-containing products to control

secondary infection in the chronic dermatoses, it should be borne in mind that the skin is more liable to become sensitized to many substances, including neomycin. The manifestation of sensitization to neomycin is usually a low grade reddening with swelling, dry scaling and itching; it may be manifest simply as failure to heal. During long-term use of neomycin-containing products, periodic examination for such signs is advisable and the patient should be told to discontinue the product if they are observed. These symptoms regress quickly on withdrawing the medication. Neomycin-containing applications should be avoided for that patient thereafter.

PRECAUTIONS: As with other antibacterial preparations, prolonged use may result in overgrowth of nonsusceptible organisms, including fungi. Appropriate measures should be taken if this occurs.

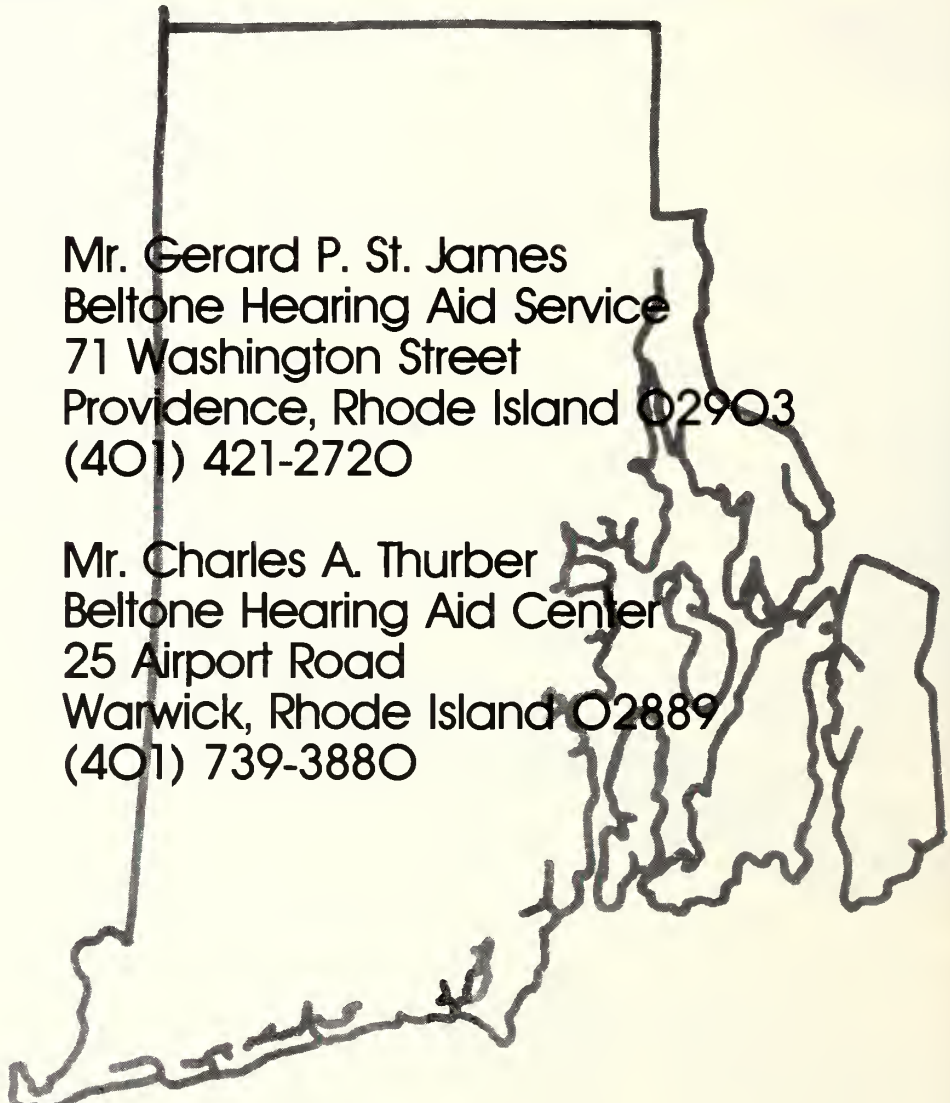
ADVERSE REACTIONS: Neomycin is a not uncommon cutaneous sensitizer. Articles in the current literature indicate an increase in the prevalence of persons allergic to neomycin. Ototoxicity and nephrotoxicity have been reported (see Warning section).

Complete literature available on request from Professional Services Dept. PML.

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This drug is not indicated for initial therapy of edema or hypertension. Edema or hypertension requires therapy titrated to the individual. If this combination represents the dosage so determined, its use may be more convenient in patient management. Treatment of hypertension and edema is not static, but must be reevaluated as conditions in each patient warrant.

Contraindications: Further use in anuria, progressive renal or hepatic dysfunction, hyperkalemia. Pre-existing elevated serum potassium. Hypersensitivity to either component or other sulfonamide-derived drugs.

Warnings: Do not use potassium supplements, dietary or otherwise, unless hypokalemia develops or dietary intake of potassium is markedly impaired. If supplementary potassium is needed, potassium tablets should not be used. Hyperkalemia can occur, and has been associated with cardiac irregularities. It is more likely in the severely ill, with urine volume less than one liter/day, the elderly and diabetics with suspected or confirmed renal insufficiency. Periodically, serum K⁺ levels should be determined. If hyperkalemia develops, substitute a thiazide alone, restrict K⁺ intake. **Associated widened QRS complex or arrhythmia requires prompt additional therapy.** Thiazides cross the placental barrier and appear in cord blood. Use in pregnancy requires weighing anticipated benefits against possible hazards, including fetal or neonatal jaundice, thrombocytopenia, other adverse reactions seen in adults. Thiazides appear and triamterene may appear in breast milk. If their use is essential, the patient should stop nursing. Adequate information on use in children is not available.

Precautions: Do periodic serum electrolyte determinations (particularly important in patients vomiting excessively or receiving parenteral fluids). Periodic BUN and serum creatinine determinations should be made, especially in the elderly, diabetics or those with suspected or confirmed renal insufficiency. Watch for signs of impending coma in severe liver disease. If spiro-lactone is used concomitantly, determine serum K⁺ frequently; both can cause K⁺ retention and elevated serum K⁺. Two deaths have been reported with such concomitant therapy (in one, recommended dosage was exceeded, in the other serum electrolytes were not properly monitored). Observe regularly for possible blood dyscrasias, liver damage, other idiosyncratic reactions. Blood dyscrasias have been reported in patients receiving triamterene, and leukopenia, thrombocytopenia, agranulocytosis, and aplastic anemia have been reported with thiazides. Triamterene is a weak folic acid antagonist. Do periodic blood studies in cirrhotics with splenomegaly. Antihypertensive effect may be enhanced in post-sympathectomy patients. Use cautiously in surgical patients. The following may occur: transient elevated BUN or creatinine or both, hyperglycemia and glycosuria (diabetic insulin requirements may be altered), hyperuricemia and gout, digitalis intoxication (in hypokalemia), decreasing alkali reserve with possible metabolic acidosis. 'Dyazide' interferes with fluorescent measurement of quinidine.

Adverse Reactions: Muscle cramps, weakness, dizziness, headache, dry mouth; anaphylaxis, rash, urticaria, photosensitivity, purpura, other dermatological conditions; nausea and vomiting, diarrhea, constipation, other gastrointestinal disturbances. Necrotizing vasculitis, paresthesias, icterus, pancreatitis, xanthopsia and, rarely, allergic pneumonitis have occurred with thiazides alone.

Supplied: Bottles of 100 and 1000 capsules, Single Unit Packages of 100 (intended for institutional use only).

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in the functional bowel/irritable bowel syndrome*

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10 mg. capsules, 20 mg. tablets,
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helps control abnormal motor activity
with minimal anticholinergic side effects[†]

Demonstrated smooth muscle relaxant activity.

In this double-blind study, twenty patients having G.I. series and exhibiting
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1. Bentyl produced definite relaxation in 8 of 10 patients. The sodium chloride
produced relaxation in only 3 of 10. No side effects occurred in either group of patients.



Fluorospasm has
almost totally blocked
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meal.



Barium meal beginning
to pass 10 minutes
after intramuscular
injection of 20 mg. Bentyl.

The correlation of spasm relief and drug given was excellent."

This drug has been classified "probably" effective in treating
functional bowel/irritable bowel syndrome.

See Warnings, Precautions and Adverse Reactions.

See following page for prescribing information.

Reference:

King, J.C. and Starkman, N.M.: Evaluation of an antispasmodic.
Double-blind evaluation to control gastrointestinal spasms
occurring during radiographic examination. A preliminary report.
Western Med 5:356-358, 1964

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Bentyl[®]

(dicyclomine hydrochloride USP)

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Brief Summary

INDICATIONS

Based on a review of this drug by the National Academy of Sciences—National Research Council and/or other information, FDA has classified the following indications as "probably" effective:

For the treatment of functional bowel/irritable bowel syndrome (irritable colon, spastic colon, mucous colitis) and acute enterocolitis.

THESE FUNCTIONAL DISORDERS ARE OFTEN RELIEVED BY VARYING COMBINATIONS OF SEDATIVE, REASSURANCE, PHYSICIAN INTEREST, AMELIORATION OF ENVIRONMENTAL FACTORS.

For use in the treatment of infant colic (syrup).

Final classification of the less-than-effective indications requires further investigation.

CONTRAINDICATIONS: Obstructive uropathy (for example, bladder neck obstruction due to prostatic hypertrophy); obstructive disease of the gastrointestinal tract (as in achalasia, pyloroduodenal stenosis); paralytic ileus, intestinal atony of the elderly or debilitated patient; unstable cardiovascular status in acute hemorrhage, severe ulcerative colitis, toxic megacolon complicating ulcerative colitis, myasthenia gravis. **WARNINGS:** In the presence of a high environmental temperature, heat prostration can occur with drug use (fever and heat stroke due to decreased sweating). Diarrhea may be an early symptom of incomplete intestinal obstruction, especially in patients with ileostomy or colostomy. In this instance treatment with this drug would be inappropriate and possibly harmful. Bentyl may produce drowsiness or blurred vision. In this event, the patient should be warned not to engage in activities requiring mental alertness such as operating a motor vehicle or other machinery or perform hazardous work while taking this drug. **PRECAUTIONS:** Although studies have failed to demonstrate adverse effects of dicyclomine hydrochloride in glaucoma or in patients with prostatic hypertrophy, it should be prescribed with caution in patients known to have or suspected of having glaucoma or prostatic hypertrophy. Use with caution in patients with Autonomic neuropathy. Hepatic or renal disease. Ulcerative colitis. Large doses may suppress intestinal motility to the point of producing a paralytic ileus and the use of this drug may precipitate or aggravate the serious complication of toxic megacolon. Hyperthyroidism, coronary heart disease, congestive heart failure, cardiac arrhythmias, and hypertension. Hiatal hernia associated with reflux esophagitis since anticholinergic drugs may aggravate this condition.

Do not rely on the use of the drug in the presence of complication of biliary tract disease. Investigate any tachycardia before giving anticholinergic (atropine-like) drugs since they may increase the heart rate. With overdosage, a curare-like action may occur. **ADVERSE REACTIONS:** Anticholinergics/antispasmodics produce certain effects which may be physiologic or toxic depending upon the individual patient's response. The physician must delineate these. Adverse reactions may include xerostomia, urinary hesitancy and retention, blurred vision and tachycardia, palpitations, mydriasis, cycloplegia, increased ocular tension, loss of taste, headache, nervousness, drowsiness, weakness, dizziness, insomnia, nausea, vomiting, impotence, suppression of lactation, constipation, bloated feeling, severe allergic reaction or drug idiosyncrasies including anaphylaxis, urticaria and other dermal manifestations, some degree of mental confusion and/or excitement, especially in elderly persons, and decreased sweating. With the injectable form there may be a temporary sensation of lightheadedness and occasionally local irritation. **DOSEAGE AND ADMINISTRATION:** Dosage must be adjusted to individual patient's needs.

Usual Dosage: Bentyl 10 mg capsule and syrup. **Adults:** 1 or 2 capsules or teaspoonfuls syrup three or four times daily. **Children:** 1 capsule or teaspoonful syrup three or four times daily. **Infants:** ½ teaspoonful syrup three or four times daily. (May be diluted with equal volume of water.) Bentyl 20 mg. **Adults:** 1 tablet three or four times daily. Bentyl Injection. **Adults:** 2 ml. (20 mg) every four to six hours intramuscularly only. **NOT FOR INTRAVENOUS USE.** **MANAGEMENT OF OVERDOSE:** The signs and symptoms of overdose are headache, nausea, vomiting, blurred vision, dilated pupils, hot, dry skin, dizziness, dryness of the mouth, difficulty in swallowing, CNS stimulation. Treatment should consist of gastric lavage, emetics, and activated charcoal. Barbiturates may be used either orally or intramuscularly for sedation but they should not be used if Bentyl with Phenobarbital has been ingested. If indicated, parenteral cholinergic agents such as Urecholine[®] (bethanechol chloride USP) should be used.

Product Information as of October, 1978.

Injectable dosage forms manufactured by CONNAUGHT LABORATORIES, INC., Switzwater, Pennsylvania 18370 or TAYLOR PHARMACAL COMPANY, Decatur, Illinois 62525 for MERRELL-NATIONAL LABORATORIES, Division of Richardson-Merrell Inc., Cincinnati, Ohio 45215, U.S.A.

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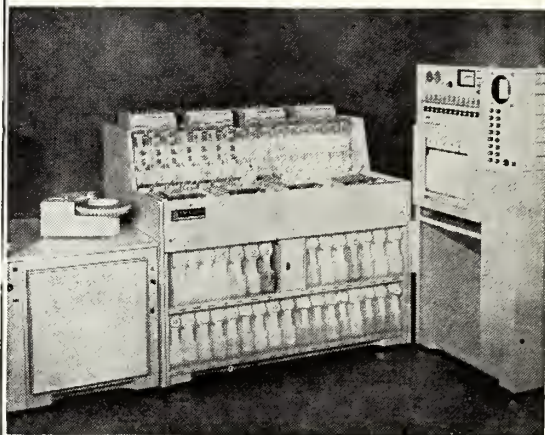
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RHODE ISLAND MEDICAL JOURNAL

More on Prenatal Diagnosis in Rhode Island

Amniocentesis And Chromosomal Analysis Have Proved Useful In Detecting Chromosomal Defects And In Allaying Anxiety

By Anne Richardson, MT(ASCP)
Carol Henkle, MT(ASCP)
Renee G. Vogel, MD
Sumner I. Zacks, MD

Prenatal diagnosis by biochemical and chromosomal studies of amniotic fluid and cells has been offered by the Cytogenetics Division of the Department of Pathology and Laboratory Medicine of The Miriam Hospital since July 1974. In the four years since the inception of the program, genetic counselling has also been offered to physicians and patients. The recent report by Barsel *et al*¹ described current practice in prenatal diagnosis by amniocentesis and presented partial data on the results of amniocentesis in Rhode Island obtained by the Child Development Center. The present

report provides additional data to permit the presentation of combined statistics for both of Rhode Island's genetic testing centers, and gives a more complete view of the availability of genetic services in Rhode Island.

Results of Pre-Natal Diagnosis at the Miriam Hospital

The culturing of cells from amniotic fluid for chromosomal diagnosis was begun at The Miriam Hospital in July 1974. The total number of samples for the period July 1974 to December 1977 was 76; 6 samples were processed in 1974, 14 in 1975, and 15 in 1976. A chromosomal abnormality was detected in one sample in 1975 and one in 1976, and the mothers elected to terminate the pregnancies. In 1977, 41 samples of fluid were received for analysis, including eight from nearby Massachusetts. Three of these samples did not produce enough cellular material to enable a chromosomal diagnosis to be made; one sample had multiple anomalies, but the patient had independently elected to terminate the pregnancy before the laboratory work was completed. One fetus was found to have an inherited balanced translocation, and at birth was found to be phenotypically normal.

ANNE RICHARDSON, MT(ASCP), *Supervisor, Cytogenetics Laboratory, The Miriam Hospital, Providence, Rhode Island*

CAROL HENKLE, MT(ASCP), *Cytogenetics Laboratory, The Miriam Hospital, Providence, Rhode Island*

RENEE G. VOGEL, MD, *Director, Cytogenetics Laboratory, The Miriam Hospital, Providence, Rhode Island*

SUMNER I. ZACKS, MD, *Pathologist-in-Chief, The Miriam Hospital, Providence, Rhode Island*

TABLE I
REASONS FOR AMNIOCENTESIS TESTING

	MIRIAM	RHODE ISLAND	TOTAL
Advanced age of Mother:			
34-39	38	17	55
over 40	18	15	33
Previous child with birth defect:			
chromosomal	3	13	16
neural tube	3	7	10
other	2	1	3
Family history	5	5	10
Anxiety (due to previous spontaneous abortion, viral or drug problem, etc)	7	5	12
TOTALS	76	63	139

TABLE II
RESULTS OF AMNIOCENTESIS TESTING

	MIRIAM	RHODE ISLAND	TOTAL
Samples received at laboratory	76	56	132
Repeat samples	4	11	15
No karyotype possible	3	9	12
Elective abortion (chromosomal defect)	3	0	3
Spontaneous abortion	0	5	5
Normal delivery	61	43	104
No follow up	6	1	7

Repeat samples were necessary in 4 cases, in 3 because of poor growth, and in one to confirm an uncertain result.

In the neonatal period two babies had respiratory distress, but there were no obstetrical complications for the remaining 61 cases. Twin girls were born in two cases in which the chromosome analysis had been normal female for the cells from one of the twins. (Although it is possible to sample both amniotic sacs when twins are diagnosed, it is not usual to do so, because of the increased risk of complications in the pregnancy.) Six cases were lost to follow-up. There were no spontaneous abortions in the group.

The test was performed for a variety of reasons, most often because of the age of the mother (38 patients were 34-39 years old, 18 were over 40). Five patients had a family history of chromosomal abnormalities; seven had severe anxiety about previous spontaneous abortions, or about genetic, viral or

drug problems; eight had already had one child with severe birth defects, including three whose previous child had had a neural tube defect and who were having the fluid taken primarily for alpha-fetoprotein testing. The data are tabulated below, and incorporate the data from the paper by Barsel *et al.*

Discussion

Amniocentesis for chromosome study is a prime example of the modern trend for a close tie between the physician, the patient, and the diagnostic laboratory. The development of expertise in obtaining and processing the sample over the last four years has made this a routine procedure, recommended for all pregnant women over the age of 35, and for all women who have had a child with chromosomal or neural tube defects, or who have a family history of such defects. It has been shown by many studies that these

women have an increased risk of having a child with serious defects. The statistics for Rhode Island show that slightly less than ten per cent of mothers at risk of having defective children are making use of this test.

A successful result in the procedure depends on two factors. The first of these is the skill and experience of the physician performing the procedure. As with any serious operation, it should not be undertaken by physicians without previous observation and training in the necessary techniques.

The second important factor in the test procedure is the processing of the sample. The test must be one of the very few *stat* procedures taking up to three weeks to produce results, and needing responsible and dedicated personnel at all phases.

Rhode Island is fortunate to have two qualified laboratories to provide this service for the state and neighboring Massachusetts. The two laboratories are both members of the New England Prenatal Diagnosis Group, sponsored by the National Foundation-March of Dimes to produce standards for prenatal diagnosis.

Summary

In 1974 amniocentesis for prenatal diagnosis was first offered on a wide scale to pregnant women at risk of giving birth to children with specific defects such as chromosomal abnormalities or neural tube defects. In the period from July 1974 to December 1977 seventy-six samples of amniocentesis fluid were processed for chromosomal analysis at the Cytogenetics Laboratory of The Miriam Hospital. The procedure has proved useful in detecting chromosomal defects and in allaying anxiety for the parents. Because of the availability of the procedure, normal children have been born to women at risk for babies with a chromosomal or other defect.

Reference

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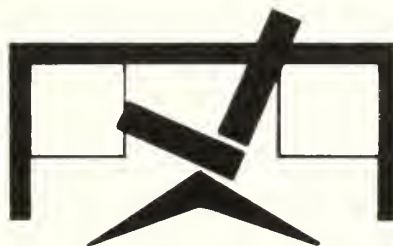
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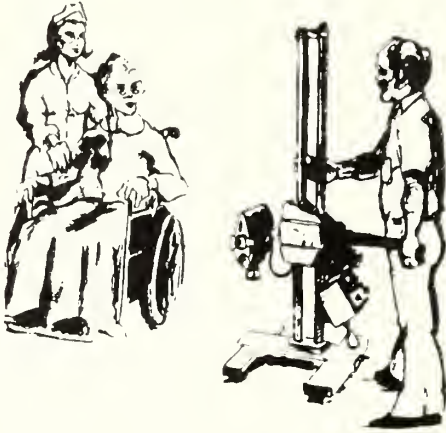
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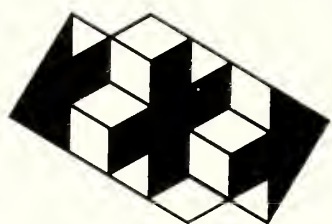
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Quadriceps Myopathy in Two Brothers

Rare Familial Myopathy Confirmed By Muscle Biopsy

By Pasquale F. Finelli, MD

Of the reported cases of quadriceps atrophy, neurogenic features suggested chronic spinal muscle atrophy in two cases^{1,2}, while the remaining 15 cases had features characteristic of a myopathic process³⁻¹⁰. A familial occurrence has been reported on two occasions^{6, 9} only one of which had biopsy evidence from involved family members⁹. The possible association of quadriceps myopathy with limb girdle muscular dystrophy and the rarity of the familial occurrence of such a relatively restricted myopathy prompted the reporting of the following cases.

Case Reports

Case 1. A 52 year old man of Italian descent, who at age 30 while working as a laborer noted difficulty climbing a scaffold. At age 37 he was hospitalized with marked wasting and weakness of the quadriceps

muscles, left more than right with other muscle groups strong and without wasting. Absent knee jerks were also noted. A lumbar myelogram at that time was negative, and a muscle biopsy of the left quadriceps was performed (Figure 2). His condition progressed to the point of having difficulty climbing steps and sidewalk curbs, necessitating disability retirement at age 39. Family history indicates a similarly affected brother (Case 2). A vague history was elicited of a maternal uncle and grandfather having difficulty with walking and climbing steps. Two other brothers aged 54 and 55, a sister aged 58, and a son aged 27 are healthy and without complaints of weakness. The patient denies bowel or bladder dysfunction as well as muscle cramps, aches, pains, or quiverings.

Mental status, cranial nerves, and sensory and cerebellar testing all were normal. Deep tendon reflexes were normoactive in the upper extremities and absent at the knees and ankles. The plantar response was flexor bilaterally. Motor examination showed marked atrophy of the quadriceps muscles with the left more involved than the right and normal bulk in other muscle groups (Figure 1). Muscle testing showed 4½/5 strength of hand-grip, wrist extensors, elbow flexors and extensors, 2/5 left knee extensors, 2-3/5 right knee extensors, 4/5 hip flexors, 3/5 knee flexors, and 5/5 ankle flexors and extensors. No myotonia was present on muscle percus-

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Figure 1. Case 1. Quadriceps muscle wasting (left more than right) with relative sparing of other muscle groups.

sion. Gait was waddling in character and a Gower's maneuver was used for rising up from the floor.

Complete blood count, blood glucose, blood urea nitrogen, and urinalysis, were normal. A VDRL was non-reactive. Cerebrospinal fluid protein, sugar, and cell count were normal. Complete spine x-ray studies and electrocardiogram were also normal. Serum enzymes included creatine phosphokinase (CPK) with isoenzymes, lactic dehydrogenase (LDH), glutamic oxalacetic transaminase (SGOT), and aldolase (See Table).

Electromyograph (EMG)/nerve conduction studies revealed motor nerve conduction of the right median and ulnar nerve to be normal. EMG of the right and left quadriceps and right gastrocnemius muscles showed a markedly decreased interference pattern, small motor unit potentials ranging from 200 to 500 microvolts, and absence of denervation potentials such as fibrillations, sharp waves or fasciculations. The right bicep and deltoid showed normal motor unit potentials

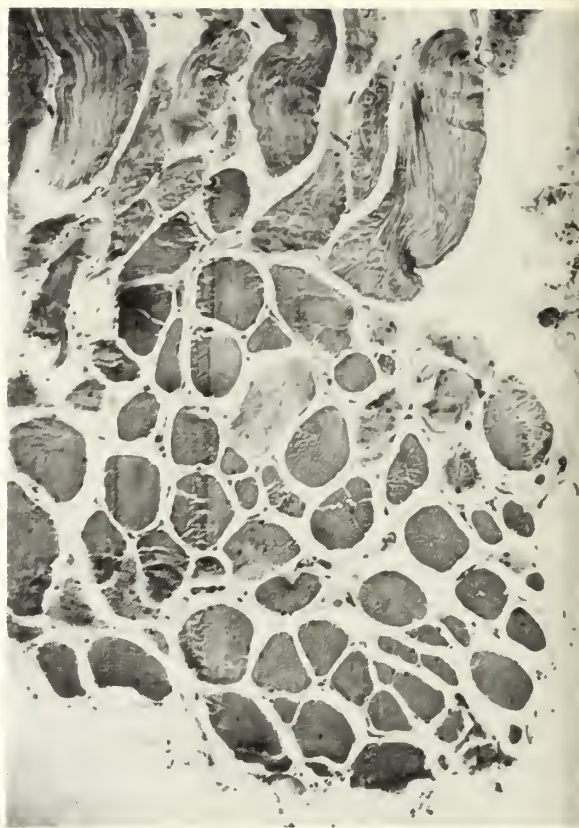


Figure 2. Case 1. Muscle biopsy showing random variation in muscle fiber size, hyalinized fibers, central nuclei and early perimysial fibrosis. H and E, X 100.

with slightly decreased amplitude ranging from 500 microvolts to 1 K. No sharp waves or fibrillations were noted.

A biopsy from the left quadricep muscle (Figure 2) showed microscopic changes of random variation of fiber size, increased number of muscle nuclei, centralization of nuclei, hyalinized fibers, and perimysial fibrosis. No inflammation or grouping of atrophic cells was noted.

Case 2. A 49 year old man (brother of Case 1), who at age 40 while working as a painter noted difficulty climbing a ladder. He was hospitalized at age 41 for a fall as a result of his right leg giving out. A neurologic examination at that time showed weakness and atrophy of both quadriceps muscles, the right more involved than the left. The right knee jerk was absent and the left was depressed with all other reflexes normoactive. During that hospitalization lumbar myelogram was performed and was normal, and an EMG was suggestive of a muscular disorder. A muscle biopsy of the right



Figure 3. Case 2. Quadriceps muscle wasting (right more than left) with relative sparing of other muscle groups.

quadriceps was performed (Figure 4). The patient's condition has progressed over the past five years requiring the assistance of his arms to get up from a chair.

On neurological examination, mental status, cranial nerves, sensory and cerebellar testing were all normal. Deep tendon reflexes were normoactive throughout except for absence of both knee jerks. The plantar response was flexor bilaterally. Motor examination showed marked quadriceps atrophy greater on the right than on the left with normal bulk in other muscle groups (Figure 3). Muscle testing showed 5/5 strength of handgrip, wrist extensors, shoulder abductors and elbow extensors, 4/5 elbow flexors, 4/5 hip flexors, 2/5 knee extensors, 4/5 knee flexors, 5/5 ankle flexors and extensors. No myotonia was present on muscle percussion. Gait was waddling in character, and a Gower's maneuver was used upon rising up from the floor.

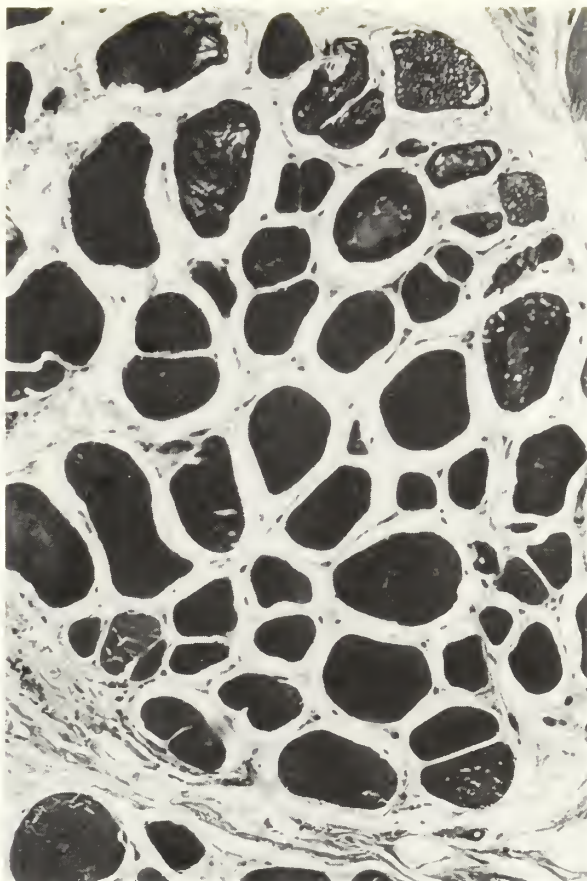


Figure 4. Case 2. Muscle biopsy showing random variation in muscle fiber size, hyalinized fibers, central nuclei and fiber splitting. H and E, X 100.

Complete blood count, blood glucose, blood urea nitrogen and urinalysis were normal. A VDRL was non-reactive. Cerebrospinal fluid protein was normal. Serum enzymes included CPK with isoenzymes, LDH, SCOT and aldolase (See Table).

Electromyography/nerve conduction studies revealed normal motor nerve conduction of the right peroneal nerve. EMG of the right and left quadriceps muscles showed a markedly decreased interference pattern of small motor unit potential ranging from 200 to 500 microvolts with no evidence of denervation potentials. In the upper extremity, a full interference pattern was seen, but decreased motor unit potential size from 500 microvolts to 1 K was found in the biceps and deltoid muscles.

A biopsy from the right quadriceps muscle (Figure 4) showed microscopic changes similar to those in Case 1, namely random variation in fiber size, increased number of

FAMILIAL QUADRICEPS MYOPATHY

AUTHOR(s)	AGE AT ONSET OF WEAKNESS	DURATION OF WEAKNESS (years)	SEX	ELECTRO-MYOGRAPHY	MUSCLE BIOPSY	SERUM ENZYMES				COMMENT
						CPK	LDH	SGOT	Aldolase	
van Wijngaarden et al.....	23	15	male	M	M	14.2U	59OU	68U	21.4U	Atrophy of quadriceps muscles without pain or hypertrophy.
	32	2	male	M	M	22 U	69OU	62U	32.1U	
						CPK	LDH	SGOT	Aldolase	
Espir et al.....	51	2	male	M	M	7.3iu	—	—	9.6mu	Atrophy alternating with area of hypertrophy of quadriceps muscles associated with aching pain.
	61	0	male	M	—	—	—	—	—	
	31	2	female	M	—	72iu	—	—	1.6mu	
	29	0	female	M	—	—	—	—	—	
	25	0	female	M	—	24iu	—	—	1.6mu	
						CPK*	LDH*	SGOT*	Aldolase*	
Finelli.....	30	22	male	M	M	1651iu	253mu	138mu	6.5sl	Atrophy of quadriceps muscles without pain or hypertrophy.
	39	10	male	M	M	954iu	272mu	121mu	20.8sl	
						CPK isoenzyme (MM) both cases				

M = Myopathic

- = Not Done or Not Reported

* = Normal for our laboratory: CPK 0—100iu/l, LDH 100—225mu/ml, SGOT 7—40mu/ml, Aldolase 3—8sl units

muscle nuclei, central position of nuclei, hyalinized fibers, perimysial fibrosis and fiber splitting. No inflammation or grouped atrophy was noted.

Discussion

Although a syndrome of varied etiology, most cases of quadriceps myopathy have been classified as a muscular dystrophy¹. The clinical picture, namely that of slowly progressive symmetrical weakness and wasting of the quadriceps muscles usually with decreased or absent knee jerks, is similar despite the etiology of the quadriceps atrophy. To differentiate a neurogenic from a myopathic process a muscle biopsy and EMG are essential. Either test alone may be inconclusive as seen in two of three cases of quadriceps atrophy of neurogenic origin (Boddie: mixed pattern on muscle biopsy), (Furukawa: Case I, mixed pattern of EMG). Muscle histochemistry in familial quadriceps myopathy showed normal enzyme activity of most muscle fibers, with normal type I and II

fiber distribution⁹. The serum CPK, SGOT, and aldolase may be elevated from either a myopathic or neurogenic process, and thus limited in differentiating between the two¹¹. However, as in other muscular dystrophies¹², the CPK may prove to be of value in identifying asymptomatic members and carriers in a family with known quadriceps atrophy of the dystrophic variety. Other conditions to consider with quadriceps weakness and wasting include polymyositis, diabetic amyotrophy, carcinomatous, alcoholic, steroid and thyrotoxic myopathy.

As in our cases, muscle involvement frequently extends beyond the quadricep group late in the disease as demonstrated by EMG and mild clinical weakness⁹. Similarly, Walton in his two cases, noted involvement of other proximal limb and girdle muscles on long term follow-up, concluding this represents a *forme fruste* or abortive variety of limb-girdle muscular dystrophy¹².

Compared to the previously reported cases of familial quadriceps myopathy (Table), the

cases reported here are very similar clinically to those of van Wijngaarden *et al*.⁹ The cases reported by Espir *et al*,⁶ however, were associated with aching pain and areas of quadriceps hypertrophy, features not seen in other cases. To understand better the syndrome of quadriceps atrophy and to define more clearly the role of muscular dystrophy in this condition, two additional cases of familial quadriceps myopathy are described.

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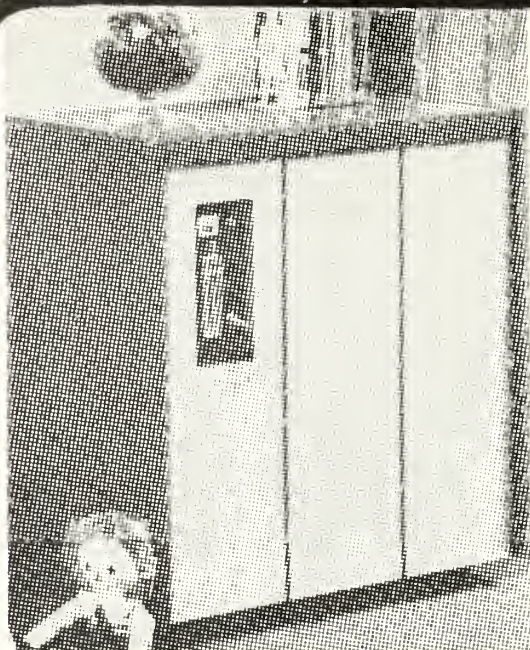
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Glycohemoglobin (HbA_{1c}): A New Blood Sugar Test and Its Clinical Importance

Reflects Blood Sugar During The Preceding Months And Is An Important Gauge Of Long Term Control

By John M. Bleyer, MD

During the 120 day lifespan of the mature red blood cells, glucose molecules become attached to a minor hemoglobin component called hemoglobin (HbA_{1c}) or glycohemoglobin. The extent of this attachment depends upon the concentration of glucose in the blood: the more glucose present, the higher the percentage of the glycohemoglobin molecules.¹ Subsequently, various authors²⁻⁵ studied this phenomenon in diabetics. They concluded that in a hospital setting the blood levels of glycohemoglobin, also called fast or glycolysated hemoglobin, was a good measure of diabetes control during an 8-12 week period preceding the blood test. Thus, while the routine blood sugar test represents the amount of glucose in the blood at the time the specimen is drawn, glycohemoglobin reflects the behavior of the blood sugar during the preceding 8-12 weeks as determined by the lifecycle of the red cell.

It is claimed that one glycohemoglobin test would achieve the same "as doing a blood glucose determination one hour before and one hour after each meal (6 glucose determinations per day), 7 days a week, for 8 consecutive weeks, and averaging all of the 336 glucose values."⁶ Recently, this blood test

was made commercially available by several laboratories and has even been advertised in the daily press.⁷

The usefulness of glycohemoglobin in the diagnosis of diabetes and in the follow-up of diabetics was investigated in an office setting in ambulatory patients.

Patients and Methods

Two groups of patients were studied. Group I consisted of 13 patients, 8 males aged 8-67 years (mean 45 years) and 5 females aged 20-73 years (mean 42.7 years), whose clinical work-up required a three hour oral glucose tolerance test (GTT). This was evaluated by the Joslin Clinic criteria. Glycohemoglobin was determined only on the first (fasting) specimen.

Group II consisted of 136 ambulatory diabetics, 58 males aged 17-84 years (mean 57.7 years) and 78 females, aged 9-91 years (mean 58.8 years), many of them followed by the author for several years. The fasting blood sugar (FBS) and glycohemoglobin were determined on the same blood specimen drawn after an overnight fast.

In both groups urine was obtained at the time of blood drawing and tested for glucose and acetone.

The blood sugars were determined in the author's laboratory by the Beckman Glucose Analyzer, while the glycohemoglobin was measured by Metpath Inter-

JOHN M. BLEYER, MD, *Director, Diabetes Clinic, The Memorial Hospital, Pawtucket, Rhode Island.*

national Medical Services the same day by the following steps: (1) lysis of RBC, (2) removal of RBS membranes, (3) conversion of hemoglobin to cyanhemoglobin, (4) separation and spectrophotometric quantitation of glycohemoglobin from other hemoglobins by ion-exchange liquid chromatography, and (5) calculation of the percentage of glycosylated hemoglobin.⁶

While one glycohemoglobin and one FBS each were done on 87 patients, 41 had 2 determinations and 8 had three at differing time intervals. In Group I the glycohemoglobin values were compared with the results of the oral GTT. In Group II the glycohemoglobin values were first related to the FBS readings of the same blood specimen. Then the behavior of the patient's diabetes during the preceding 8-12 week was compared with the glycohemoglobin and FBS values, respectively. The patient's diabetes was assessed by home urine testing (urine being tested at least once a day, mostly at night) and by the clinical course during the preceding 2-3 months.

The following standards were used to compare the clinical significance of the FBS and glycohemoglobin values, respectively: FBS was considered normal (good control) at 109 mg per cent or below.⁸ The glycohemoglobin values were assessed according to the criteria of Metpath⁹ as follows: glycohemoglobin (per cent) good control (normal subjects): less than 7.5, fair control 7.6 to 8.9, and poor control higher than 9.0.

Results

Of the 13 oral GTT performed eight were negative, four were positive, and one was borderline. One of the negative cases showed glycosuria with normal blood sugar values. All cases with a negative GTT had a normal glycohemoglobin reading. The blood sugar two hours after the test drink was normal in all "negative" cases. Of the four positive GTT the glycohemoglobin was abnormal in three and normal in one while the borderline case had a normal glycohemoglobin reading.

In group II the FBS values were compared with the glycohemoglobin readings in 136 ambulatory patients who had 193 FBS and glycohemoglobin determinations, respectively. Of 87 patients who had one FBS and one glycohemoglobin determinations each,

the two matched, both being either normal or elevated, in 69 patients. Of 41 patients with two FBS and two glycohemoglobin, both matched on both occasions in 26 patients while in eight patients who had three FBS and glycohemoglobin determinations, all three accorded in six patients.

On the other hand, FBS and glycohemoglobin did not conform in 33 patients and 40 determinations. This poor match can be broken down as follows: In 12 tests the FBS was normal or low normal, ranging from 48-109 mg per cent (mean 82.25 mg per cent), while the glycohemoglobin was elevated 7.6 — 11.5 (mean 9.15). In 28 sets of test the opposite was seen: FBS was elevated: 111-243 mg per cent (mean 141.96 mg per cent) while the glycohemoglobin read normal: 5.6 — 7.5 (mean 6.85). In summary, of 193 FBS and glycohemoglobin tests performed on the same blood specimen the two were in conformance in 79.28 per cent, while they were not in 20.72 per cent.

The relationship of the glycohemoglobin as well as of the FBS values to the control of diabetes during the preceding 8-12 weeks was studied in 137 patients. Of 99 clinically well controlled patients the FBS was normal in 32 and the glycohemoglobin in 44. Of 37 patients with fair or poor control, the FBS was elevated in 34 and the glycohemoglobin in 35.

Discussion

While the clinical studies on glycohemoglobin reported in the literature were conducted in a hospital setting, we investigated its usefulness in an office practice devoted mostly to diabetics. We tried to define its usefulness in the diagnosis, treatment, and follow-up of the disease.

The oral GTT is still the mainstay, together with a good history, of the diagnosis. Its abbreviated form, the 2 hour postprandial blood sugar, is widely used for screening purposes and follow-up studies. Does glycohemoglobin add any dimensions to this field?

Thirteen oral GTT were studied. They were performed because of a strong suspicion of diabetes. The glycohemoglobin in eight negative tests was normal. This significant correlation would suggest, especially if confirmed by a larger sampling, that a normal

glycohemoglobin should make an oral GTT superfluous. Furthermore, in a routine clinical work-up as well as in mass screening programs such as diabetes detection drives, the substitution of glycohemoglobin for random blood sugar determinations would provide for greater accuracy in screening out individuals with normal glucose tolerance. This represents probably the greatest contribution of glycohemoglobin to diabetes management.

One patient with a negative GTT and normal glycohemoglobin had a low kidney threshold, heavy glycosuria, and normal blood sugar readings. This would mean, if confirmed by others, that the finding of glycosuria without hyperglycemia would require only a glycohemoglobin determination and not a GTT to exclude diabetes.

Also for medicolegal purposes the glycohemoglobin may be more helpful than a random blood sugar determination. It is often difficult to decide whether diabetes, detected following severe injury to the pancreas, was caused by the injury itself or by presence of disease, though unnoticed, prior to the accident. An elevated glycohemoglobin observed in postpartum mothers would indicate, according to J A Widens et al¹⁰, unsuspected gestational diabetes. The same authors found "a direct relationship of HbA_{1c} to hyperglycemia; as such, HbA_{1c} may be viewed as a predictor of fetal size."

The close correlation between glycohemoglobin and FBS though they admittedly represent different parameters, suggest the relevance of glycohemoglobin in the clinical process. Furthermore, the observation that in some cases the FBS was normal while the glycohemoglobin was elevated would only mean that the carbohydrate tolerance was controlled transiently for the preceding several hours while the glycohemoglobin brought out the "true" state of affairs during the preceding weeks. All of this would also suggest that urine testing at home, if performed only to judge the control of the disease, could be conveniently replaced, with greater dependability, by one glycohemoglobin determination. This would also be of great help when home urine testing was not feasible for various reasons.

The greater reliability of the FBS and glycohemoglobin over the personal history,

home urinalysis, and subjective assessment of the preceding clinical course was also reflected by the great discrepancy between the clinical assessment of the individual patient and the FBS and glycohemoglobin values. While only half of the patients with good control had normal glycohemoglobin, poor control paralleled the FBS and glycohemoglobin in more than 90 per cent of the cases. This shows the appreciable value of glycohemoglobin as a parameter of diabetic control.

Summary

Glycohemoglobin (HbA_{1c}), a minor hemoglobin component, reflects the behavior of the blood sugar during the preceding 8-12 weeks. It is an important gauge of long-term glucose control. In clinical practice: 1) it may replace, in certain instances, the oral glucose tolerance test; 2) in mass screening for diabetes it is superior to random blood sugar determinations; 3) it helps to interpret glycosuria that is unrelated to diabetes mellitus; 4) it can often replace home urine testing; 5) it can predict the size of the newborn of a diabetic mother; 6) in medicolegal cases it can help to decide whether or not diabetes existed prior to severe abdominal injury; 7) it can reveal poor long-term control even when serial urine glucose tests are negative due to a high kidney threshold for glucose. On the other hand, it cannot be used in the hour-to-hour and day-to-day control of the blood sugar. Here we still have to rely on routine blood sugar determinations.

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Brief Summary

INDICATION: Tenuate and Tenuate Dospan are indicated in the management of exogenous obesity as a short-term adjunct (a few weeks) in a regimen of weight reduction based on caloric restriction. The limited usefulness of agents of this class should be measured against possible risk factors inherent in their use such as those described below.

CONTRAINDICATIONS: Advanced arteriosclerosis, hyperthyroidism, known hypersensitivity, or idiosyncrasy to the sympathomimetic amines, glaucoma. Agitated states. Patients with a history of drug abuse. During or within 14 days following the administration of monoamine oxidase inhibitors, (hypertensive crises may result).

WARNINGS: If tolerance develops, the recommended dose should not be exceeded in an attempt to increase the effect; rather, the drug should be discontinued. Tenuate may impair the ability of the patient to engage in potentially hazardous activities such as operating machinery or driving a motor vehicle, the patient should therefore be cautioned accordingly. **Drug Dependence:** Tenuate has some chemical and pharmacologic similarities to the amphetamines and other related stimulant drugs that have been extensively abused. There have been reports of subjects becoming psychologically dependent on diethylpropion. The possibility of abuse should be kept in mind when evaluating the desirability of including a drug as part of a weight reduction program. Abuse of amphetamines and related drugs may be associated with varying degrees of psychologic dependence and social dysfunction which, in the case of certain drugs, may be severe. There are reports of patients who have increased the dosage to many times that recommended. Abrupt cessation following prolonged high dosage administration results in extreme fatigue and mental depression, changes are also noted on the sleep EEG. Manifestations of chronic intoxication with anorectic drugs include severe dermatoses, marked insomnia, irritability, hyperactivity, and personality changes. The most severe manifestation of chronic intoxications is psychosis, often clinically indistinguishable from schizophrenia. **Use in Pregnancy:** Although rat and human reproductive studies have not indicated adverse effects, the use of Tenuate by women who are pregnant or may become pregnant requires that the potential benefits be weighed against the potential risks. **Use in Children:** Tenuate is not recommended for use in children under 12 years of age.

PRECAUTIONS: Caution is to be exercised in prescribing Tenuate to patients with hypertension or with symptomatic cardiovascular disease, including arrhythmias. Tenuate should not be administered to patients with severe hypertension. Insulin requirements in diabetes mellitus may be altered in association with the use of Tenuate and the concomitant dietary regimen. Tenuate may decrease the hypotensive effect of guanethidine. The least amount feasible should be prescribed or dispensed at one time in order to minimize the possibility of overdosage. Reports suggest that Tenuate may increase convulsions in some epileptics. Therefore, epileptics receiving Tenuate should be carefully monitored. Titration of dose or discontinuance of Tenuate may be necessary.

ADVERSE REACTIONS: **Cardiovascular:** Palpitation, tachycardia, elevation of blood pressure, precordial pain, arrhythmia. One published report described T-wave changes in the ECG of a healthy young male after ingestion of diethylpropion hydrochloride. **Central Nervous System:** Overstimulation, nervousness, restlessness, dizziness, jitteriness, insomnia, anxiety, euphoria, depression, dysphoria, tremor, dyskinesia, mydriasis, drowsiness, malaise, headache, rarely psychotic episodes at recommended doses. In a few epileptics an increase in convulsive episodes has been reported. **Gastrointestinal:** Dryness of the mouth, unpleasant taste, nausea, vomiting, abdominal discomfort, diarrhea, constipation, other gastrointestinal disturbances. **Allergic:** Urticaria, rash, ecchymosis, erythema. **Endocrine:** Impotence, changes in libido, gynecomastia, menstrual upset. **Hematopoietic System:** Bone marrow depression, agranulocytosis, leukopenia. **Miscellaneous:** A variety of miscellaneous adverse reactions has been reported by physicians. These include complaints such as dyspnea, hair loss, muscle pain, dysuria, increased sweating, and polyuria.

DOSE AND ADMINISTRATION: Tenuate (diethylpropion hydrochloride): One 25 mg tablet three times daily, one hour before meals, and in mid-evening if desired to overcome night hunger. Tenuate Dospan (diethylpropion hydrochloride) controlled-release: One 75 mg tablet daily, swallowed whole, in midmorning. Tenuate is not recommended for use in children under 12 years of age.

OVERDOSAGE: Manifestations of acute overdosage include restlessness, tremor, hyperreflexia, rapid respiration, confusion, assaultiveness, hallucinations, panic states. Fatigue and depression usually follow the central stimulation. Cardiovascular effects include arrhythmias, hypertension or hypotension and circulatory collapse. Gastrointestinal symptoms include nausea, vomiting, diarrhea, and abdominal cramps. Overdose of pharmacologically similar compounds has resulted in fatal poisoning, usually terminating in convulsions and coma. Management of acute Tenuate intoxication is largely symptomatic and includes lavage and sedation with a barbiturate. Experience with hemodialysis or peritoneal dialysis is inadequate to permit recommendation in this regard. Intravenous phenolamine (Regitine®) has been suggested on pharmacologic grounds for possible acute, severe hypertension, if this complicates Tenuate overdosage.

Product Information as of April, 1976

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References: 1. Citations available on request — Medical Research Department, MERRELL RESEARCH CENTER, MERRELL-NATIONAL LABORATORIES, Cincinnati, Ohio 45215. 2. Hoekenga, M.T., O'Dillon, R.H., and Leyland, H.M.: A Comprehensive Review of Diethylpropion Hydrochloride. International Symposium on Central Mechanisms of Anorectic Drugs, Florence, Italy, Jan. 20-21, 1977.

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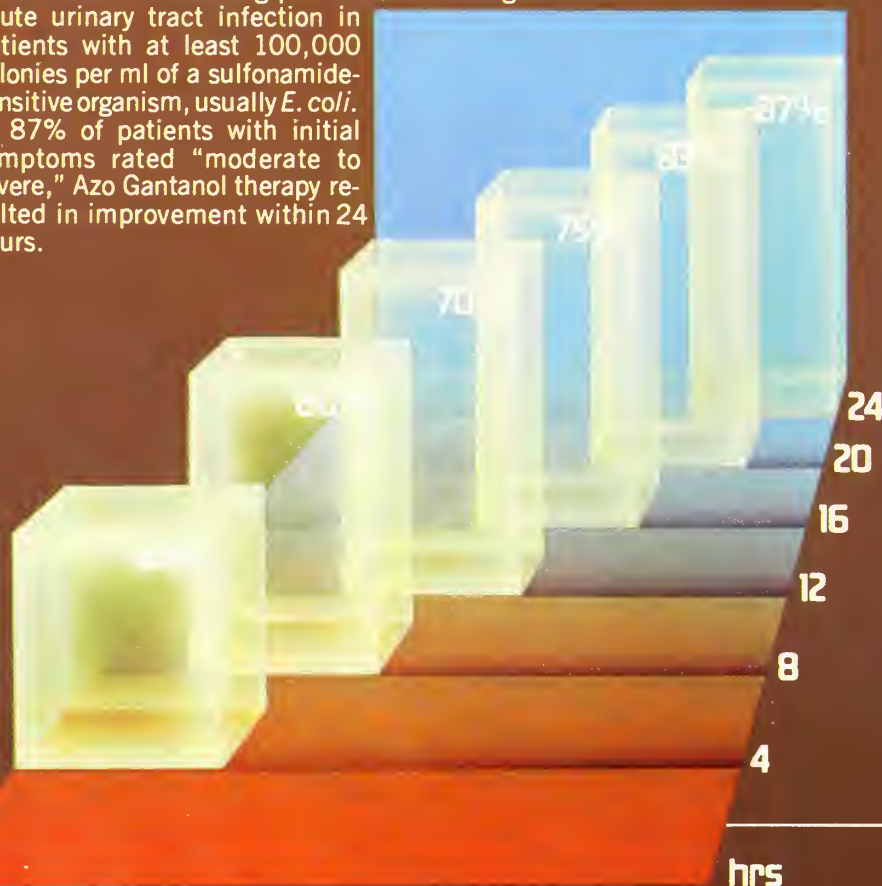


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Before prescribing, please consult complete product information, a summary of which follows. **Indications:** In adults, urinary tract infection complicated by pain (primarily pyelonephritis, cystitis and pyelitis) due to susceptible organisms (usually *E. coli*, *Klebsiella-Aerobacter*, *Staphylococcus aureus*, *Proteus mirabilis*, and occasionally, *Proteus vulgaris*) in the absence of obstructive uropathy or foreign bodies. **Contraindications:** Children below age 12; sulfonamide hypersensitivity; pregnancy during nursing period; because Azo Gantanol contains phenazopyridine hydrochloride, it is contraindicated in glomerulonephritis, severe uremia, and pyelonephritis of pregnancy with disturbances.

Warnings: Safety during pregnancy not established. Deaths from hypersensitivity reactions, aplastic anemia and other blood disorders have been reported and early clinical signs include throat, fever, pallor, purpura or jaundice. Frequent urinalysis with microscopic examination is recommended during sulfonamide therapy. **Precautions:** Use cautiously in patients with impaired renal or hepatic function, severe bronchial asthma; in glucose-6-phosphate dehydrogenase-deficient individuals, dose-related hemolysis may occur. Maintain adequate fluid intake to prevent crystalline stone formation.

Adverse Reactions: Blood dyscrasias (leukopenia, aplastic anemia, thrombocytopenia, hemolytic anemia, purpura, thrombinemia and methemoglobinemia); skin reactions (erythema multiforme, skin eruptions, Stevens-Johnson syndrome, epidermal necrosis, urticaria, serum sickness, pruritus, dermatitis, anaphylactoid reactions, edema, conjunctival and scleral injection, sensitization, arthralgia and allergic reactions); **G.I. reactions** (nausea, emesis, abdominal pain, diarrhea, anorexia, pancreatitis, stomatitis); **CNS reactions** (headache, neuritis, mental depression, convulsions, hallucinations, tinnitus, vertigo and dizziness); **miscellaneous reactions** (drug fever, nephrosis with oliguria and anuria, pseudotumor, nodosa and L. E. phenomenon). Due to chemical similarities with some goitrogenic agents (acetazolamide, thiazides) and glycosaminoglycans, sulfonamides have been reported to cause goiter production, diuresis, glycosuria. Cross-sensitivity with these agents may exist.

Dosage: Azo Gantanol is intended for the painful phase of urinary tract infection. **adult dosage:** 2 Gm (4 tabs) initially (2 tabs) B.I.D. for up to 3 days. If pain persists, treatment should be continued. After relief of pain has been obtained, treatment with Gantanol (sulfamethoxazole) should be considered. **NOTE:** Patients should be told that the dye (phenazopyridine HCl) will color the urine. **Supplied:** Tablets, red, film-coated, containing 0.5 Gm sulfamethoxazole and 100 mg phenazopyridine HCl—bottles of 100.

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Listeria Monocytogenes Pericarditis and Myocardial Abscess

This Is The First Reported Case Of These Complications Of Listeriosis

By Alan D. Tice, MD
Jeffrey S. Nelson, MD
Ernest B. Visconti, MD

Listeria monocytogenes was first identified as a human pathogen in 1929, although it was isolated from human spinal fluid as early as 1918¹. Since that time it has remained one of the most puzzling organisms to characterize epidemiologically and one of the more difficult to identify microbiologically. Infections have been reported in a wide range of animals from elephants to canaries². Human disease caused by *Listeria* is most prevalent in neonates and adults over 40 years of age with a 28 per cent mortality rate³. Meningitis and sepsis are the most frequent human forms of *Listeria* infection in the United States. Other clinical forms include conjunctivitis, endocarditis, urethritis, and granulomatosis infantiseptica². Cardiac involvement is rare in human subjects although *Listeria* frequently produces myocardial necrosis in birds and polyserositis in

rabbits with massive peritoneal, pleural, and pericardial effusions^{2,4}. The case reported here is the first with actual recovery of the organism from human pericardial fluid and the first report of a myocardial abscess due to *Listeria* as a cause of pericarditis and emphasizes the difficulties in diagnosing and promptly treating the infection.

Case Report

A 52-year-old bartender was admitted to the Veterans Administration Medical Center following six weeks of progressive malaise, weakness, fever, chills, and dyspnea which

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From the Section of Infectious Disease, Veterans Medical Center; the Department of Pediatrics, Rhode Island Hospital; the Subsection of Infectious Disease, Section of Medicine, and the Section of Reproductive and Developmental Medicine, Brown University Program in Medicine, Providence, Rhode Island.

followed a sore throat and symptoms of an upper respiratory infection. Prior history included heavy alcohol consumption with an admission six months previously for ascites, peripheral edema, and jaundice secondary to liver failure. Paracentesis at the time revealed a sterile transudate.

On physical examination he was an alert, oriented, obese man with an oral temperature of 37°C, a respiratory rate of 30/min, a regular pulse of 150/min, and a blood pressure of 110/60 mm Hg. Pulsus paradoxus was absent. Stigmata of liver disease included icteric sclerae, numerous spider angiomas, palmar erythema, gynecomastia, ascites, and peripheral edema. The liver was palpated 10 centimeters below his right costal margin. The spleen was not felt. Heart sounds were distant but a 11/VI precordial systolic ejection murmur was heard which had been noted on admission six months previously. No pericardial rub was heard. Nuchal rigidity was absent.

X-ray films of the chest, which were normal six months previously, showed a massively enlarged cardiac silhouette. EKG findings included low voltage, a sinus tachycardia, and diffusely elevated S-T segments. A scan of the liver with 99m-Technetium Sulfur Colloid showed markedly impaired uptake with no local defects. Laboratory values included hemoglobin 10.3 gm/dl, hematocrit 30.5 per cent, prothrombin time 15/11 seconds, leukocyte count 19,400/mm³ (81 per cent polymorphonuclear leukocytes, 3 per cent bands, 10 per cent lymphocytes, 5 per cent eosinophils, and 1 percent monocytes), potassium 3.4 mEq/l, sodium 132 mEq/l, BUN 50 mg/dl, creatinine 1.7 mg/dl, bilirubin 1.5 mg/dl, alkaline phosphatase 150 IU/l, arterial pH 7.56 with PO₂ 61 mm Hg, pCO₂ 36 mm Hg, and bicarbonate 31.2 mEq/l.

On admission the patient received Lasix®, Aldactone®, and Digoxin®. This was followed by a drop in blood pressure to 90/60 mm Hg, and the development of atrial fibrillation, with a ventricular rate of about 120/min. Over the next four days he became confused and anuric, and was given blood transfusions for hematemesis and hematuria. Hepatic encephalopathy was suspected, for which he received Neomycin® enemas. An echocardiogram and heart pool scan with

99m-Technetium Human Serum Albumin showed a pericardial effusion. Pericardiocentesis was performed on the fourth day of hospitalization which yielded 750 ml of serosanguinous pericardial fluid. Analysis of the fluid showed a white blood cell count of 10,400/mm³ (75 per cent polymorphonuclear leukocytes, 15 per cent lymphocytes, 10 per cent monocytes), hematocrit of 15 per cent, and a protein of 4.4 g/dl. Gram stain revealed gram-positive organisms which were thought to be diphtheroids; oxacillin and gentamicin were begun. No acid fast bacilli were seen. The patient improved following pericardiocentesis but suffered a cardiac arrest that evening. By the next day pericardial fluid had reaccumulated and the patient was taken to the operating room where a pericardial window was made, yielding 800 ml of bloody fluid. Despite supportive measures and peritoneal dialysis, massive gastrointestinal and genito-urinary bleeding continued. He suffered repeated cardiac arrests until he expired on the following day. After death, the initial pericardial fluid culture and one of six blood cultures grew *Listeria monocytogenes* confirmed by beta-hemolysis on sheep red blood cell agar, tumbling motility, and an umbrella motility pattern on semi-solid agar. Antibiotic susceptibility testing by the standard Bauer-Kirby disc-diffusion technique indicated resistance to oxacillin and gentamicin. The second pericardial fluid culture was sterile.

At autopsy acute and chronic fibrinopurulent pericarditis was found. Branches of the right coronary artery which supplied the right atrium were also involved in the pericardial inflammatory process and were thrombosed. Sections of the right atrium revealed diffuse necrosis of the myocardium with a large abscess. The remaining myocardium and valves were normal. Cultures of pericardial fluid at the time of autopsy were sterile. The liver weighed 1390 gms and showed Laennec's cirrhosis. A large ulcer with chronic gastritis was seen in the stomach. Massive pulmonary congestion and edema were found with small foci of bronchopneumonia. The bladder showed acute mucosal erosion with hemorrhage.

(Continued on Page 137)

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Discussion

Listeria infections in rabbits, guinea pigs, and fowl are usually generalized but with a propensity to localize in the heart to produce myocardial necrosis and pericarditis². *Listeria* has also been found to produce a hemolysin which is cardiotoxic in mice⁵. Human subjects rarely develop cardiac manifestations and have not been found to have myocardial necrosis previously. Three human cases of suspected *Listeria monocytogenes* pericarditis have been described. In 1961 Ehrner reported the case of a 47-year-old Swedish man who had recurrent pleurisy and pericarditis with agglutination and complement-fixation titers suggestive of acute *Listeria* infection, but the organism was never recovered⁶. Warembourg in 1966 reported a 37-year-old French man with culture-positive *Listeria* meningoencephalitis who also had EKG changes of pericarditis⁷. In the English literature in 1971 Khan *et al* reported a 61-year-old man who had *Listeria* bacteremia and atrial fibrillation with S-T changes of pericarditis by EKG⁸. In none of these cases was *Listeria monocytogenes* pericarditis actually documented by growing the organism from pericardial fluid. The abscess in the patient we described may have been an extension from the pericardial infection or a suppurative arteritis with abscess formation and secondary pericarditis. The presenting tachycardia and the subsequent atrial fibrillation were probably a result of the progressive atrial ischemia and necrosis.

The route by which *Listeria monocytogenes* was acquired in the case reported is unknown. Most cases are probably acquired from indigenous bowel flora, which contains the organism in about 1 per cent of cases². Why this patient became infected with *Listeria* is also unclear, but probably relates to his excessive use of alcohol, which is associated with malnutrition and abnormal phagocyte functions. The poor uptake of 99m-Technetium Sulfur Colloid by his liver macrophages suggests a significant abnormality of his macrophage system which is usually responsible for ingesting and killing intracellular parasites such as *Listeria*. It is also interesting that the patient falls within the 50-59 year age group which has the

highest reported incidence of *Listeria* infections apart from neonates³.

When the patient's pericardial fluid was Gram stained and examined the organism was not initially recognized as *Listeria*. Initial misdiagnosis is not unusual because of the rarity of *Listeria* infections and because of the organism's pleomorphic morphology and variable Gram staining. Although it is usually a Gram positive bacillus, *Listeria* has been mistaken for a variety of bacteria on Gram stain including *Corynebacterium*, *Lactobacillus*, *Hemophilus*, and even streptococcal species⁹. Even when it is successfully recovered by culture, *Listeria* may be misidentified. The organism can be identified by a narrow zone of beta-hemolysis, catalase production, relative lack of biochemical activity, growth in 6 per cent NaCl or at a pH of 9.6, and the appearance of blue colonies on clear agar⁹. The most useful and rapid method of diagnosing *Listeria* is by its unique motility. After six hours in broth at 20 or 25°C it exhibits a characteristic end-over-end tumbling when examined by hanging drop technique. This motility pattern is usually not obvious at 37°C. Another test for motility is the classic "umbrella pattern", which it produces when a central vertical stab into a motility agar tube is made and it grows out horizontally 3-5 mm below the surface of the media¹⁰. Serologic titer changes are usually not helpful in diagnosing *Listeria* infections because they are not specific.

The choice of antibiotics for this man's infection was also a problem. Broad-spectrum antibiotic therapy with oxacillin and gentamicin was instituted when the organism was seen on Gram stain; however, this strain of *Listeria* was resistant to both antibiotics by in vitro disc-diffusion techniques. *Listeria* are sensitive to most antibiotics, but reports have noted a few strains which are resistant to almost any drug, including penicillin, methicillin, cephalothin, kanamycin, erythromycin, and chloramphenicol^{4 11}. In 1968 the treatment of choice was considered to be tetracycline⁴, but more recently a penicillin has been advocated^{11 12}. Medoff found that all eight cases he reported responded to penicillin even though penicillin seemed to have an inhibitory rather than a bactericidal effect by in vitro testing¹¹. Ampicillin has been advocated as the drug of choice for *Listeria* menin-

gitis because it is able to penetrate inflamed meninges well and because of uniform sensitivity to the drug with good clinical responses¹². Synergistic combinations of antibiotics have also been found, which include ampicillin or penicillin plus gentamicin or streptomycin, but the value of combination therapy in human cases has not yet been proven.

In conclusion, this case confirms the need to consider *Listeria monocytogenes* as a cause of pericarditis and adds another aspect to the broad spectrum of human disease caused by this unusual organism.

Summary

This case report represents the first of a human subject with culture-proven pericarditis and myocardial abscess formations due to *Listeria monocytogenes*. The problems in diagnosing and treating *Listeria* infections are discussed in relation to the patient.

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Final classification of the less-than-effective indications requires further investigation

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As with all anticholinergics, inhibition of lactation may occur

Precautions: In elderly and debilitated, limit dosage to smallest effective amount to preclude ataxia, oversedation, confusion (no more than 2 capsules/day initially, increase gradually as needed and tolerated). Though generally not recommended, if combination therapy with other psychotropics seems indicated, carefully consider pharmacology of agents, particularly potentiating drugs such as MAO inhibitors, phenothiazines. Observe usual precautions in presence of impaired renal or hepatic function. Paradoxical reactions reported in psychiatric patients. Employ usual precautions in treating anxiety states with evidence of impending depression, suicidal tendencies may be present and protective measures necessary. Variable effects on blood coagulation reported very rarely in patients receiving the drug and oral anticoagulants; causal relationship not established

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However, gastrointestinal bleeding, sometimes severe, has been associated with Motrin, aspirin, indomethacin, and other nonsteroidal antiarthritic agents.

*The safety and effectiveness of Motrin have not been established in patients with Functional Class IV rheumatoid arthritis (incapacitated, largely or wholly bedridden, or confined to wheelchair; little or no self-care).



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Indications and Usage: Treatment of signs and symptoms of rheumatoid arthritis and osteoarthritis during acute flares and in long-term management. Safety and efficacy have not been established in Functional Class IV rheumatoid arthritis.

Contraindications: Individuals hypersensitive to it, or with the syndrome of nasal polyps, angioedema and bronchospastic reactivity to aspirin or other nonsteroidal anti-inflammatory agents (see WARNINGS).

Warnings: Anaphylactoid reactions have occurred in patients with aspirin hypersensitivity (see CONTRAINDICATIONS).

Peptic ulceration and gastrointestinal bleeding, sometimes severe, have been reported. Ulceration, perforation, and bleeding may end fatally. An association has not been established. Motrin should be given under close supervision to patients with a history of upper gastrointestinal tract disease, only after consulting ADVERSE REACTIONS.

In patients with active peptic ulcer and active rheumatoid arthritis, nonulcerogenic drugs, such as gold, should be tried. If Motrin must be given, the patient should be under close supervision for signs of ulcer perforation or gastrointestinal bleeding.

Precautions: Blurred and/or diminished vision, scotomata, and/or changes in color vision have been reported. If these develop, discontinue Motrin and the patient should have an ophthalmologic examination, including central visual fields.

Fluid retention and edema have been associated with Motrin; use with caution in patients with a history of cardiac decompensation.

Motrin can inhibit platelet aggregation and prolong bleeding time. Use with caution in persons with intrinsic coagulation defects and those on anticoagulant therapy.

Patients should report signs or symptoms of gastrointestinal ulceration or bleeding, blurred vision or other eye symptoms, skin rash, weight gain, or edema.

To avoid exacerbation of disease or adrenal insufficiency, patients on prolonged corticosteroid therapy should have therapy tapered slowly when Motrin is added.

Drug interactions. Aspirin used concomitantly may decrease Motrin blood levels. Coumarin. Bleeding has been reported in patients taking Motrin and coumarin.

Pregnancy and nursing mothers: Motrin should not be taken during pregnancy or by nursing mothers.

Adverse Reactions

Incidence greater than 1%

Gastrointestinal: The most frequent type of adverse reaction occurring with Motrin (ibuprofen) is gastrointestinal (4% to 16%). This includes nausea*, epigastric pain*, heartburn*, diarrhea, abdominal distress, nausea and vomiting, indigestion, constipation, abdominal cramps or pain, fullness of the GI tract (bloating and flatulence). **Central Nervous System:** Dizziness*, headache, nervousness. **Dermatologic:** Rash* (including maculopapular type), pruritus. **Special Senses:** Tinnitus. **Metabolic:** Decreased appetite, edema, fluid retention. Fluid retention generally responds promptly to drug discontinuation (see PRECAUTIONS).

Incidence: Unmarked 1% to 3%; *3% to 9%.

Incidence less than 1 in 100

Gastrointestinal: Upper GI ulcer with bleeding and/or perforation, hemorrhage, melena. **Central Nervous System:** Depression, insomnia. **Dermatologic:** Vesiculobullous eruptions, urticaria, erythema multiforme. **Cardiovascular:** Congestive heart failure in patients with marginal cardiac function, elevated blood pressure. **Special Senses:** Amblyopia (see PRECAUTIONS). **Hematologic:** Leukopenia, decreased hemoglobin and hematocrit.

Causal relationship unknown

Gastrointestinal: Hepatitis, jaundice, abnormal liver function. **Central Nervous System:** Paresthesias, hallucinations, dream abnormalities. **Dermatologic:** Alopecia, Stevens-Johnson syndrome. **Special Senses:** Conjunctivitis, diplopia, optic neuritis. **Hematologic:** Hemolytic anemia, thrombocytopenia, granulocytopenia, bleeding episodes. **Allergic:** Fever, serum sickness, lupus erythematosus syndrome. **Endocrine:** Gynecomastia, hypoglycemia. **Cardiovascular:** Arrhythmias. **Renal:** Decreased creatinine clearance, polyuria, azotemia.

Overdosage: In cases of acute overdosage, the stomach should be emptied. The drug is acidic and excreted in the urine, so alkaline diuresis may be beneficial.

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Editorials

Smallpox, Cowpox, and Monkeypox

The history of smallpox and vaccination has always been intertwined with politics, and even religion. Lady Montague, Cotton Mather, Benjamin Waterhouse, and Jenner are all names intertwined with science, medicine, and politics.

The scientific and political point of view on basic medical research was recently given attention by the *New Scientist* of November 30, 1978, in the article "The Natural History of Smallpox" by Doctor Charles Rundle. The last case of smallpox in its wild form was in Somalia in 1977. Eradication of smallpox by the World Health Organization was a tremendous success and at a relatively small cost. But having eradicated the wild type, attention again was focussed on smallpox when a laboratory form of the disease escaped, resulting in a death. Professor Henry Bedson was carrying out studies at Birmingham University on the smallpox virus and its close relatives. The related viruses vary primarily in their pathogenicity and mortality rates. Despite public health eradication of the disease, continuation of research on the pox virus is not only legitimate, but a very necessary branch of virology.

Although smallpox is essentially a disease limited to man, which made possible its eradication, monkeypox is closely related. There have been thirty-four cases with five deaths of monkeypox in man, and the question arises as to whether or not monkeys and other animals may be a reservoir for pox viruses. The potential always exists for a mutation and another pandemic of a new related virus. Thus the need for continued study of pox viruses is not only justified, but necessary. With the escape of a virus from Professor Bedson's laboratory there was a great clamor for restrictions and controls over pox virus research similar to the clamor for the regulation of recombinant DNA. In the words of Doctor Charles Rundle, "There seems little point in setting up (at vast expense) a legal and political arena where the participants comprehend but dimly, if at all, the serious scientific issues involved. In most cases it is surely better that people with many years' experience of micro-biological hazards should investigate and make a public report. Even public health has its price". Good advice, with a very broad application to basic research.

Robert V. Lewis, MD

New X-ray Scanner?

It was recently reported in the Chicago *Sun-Times* that the Mayo Clinic is planning to install a prototype of a huge x-ray scanner that may well prompt another technological revolution in medical diagnosis. This behemoth will permit full-color television dissections of most organs of the body. It will, for example, be able to provide pictures of the interior of a beating heart through computer analysis of x-ray images taken at the rate of 60 per second.

The new Mayo machine, designated a

"dynamic spacial reconstructor" (DSR), which will be ready by early 1980, will be a more precise instrument than any now available. The DSR equipment will be 15 feet tall and 24 feet long, and will weigh 15 tons. It will be so large that the patient undergoing the scan will lie inside it, fully enclosed by a revolving circular structure spinning 15 times a minute, projecting x-ray beams from 28 guns. When it goes into commercial production in four to five years, it will cost — hold your hats! — \$3 million.

The machine is said to be by several orders of magnitude more advanced than anything now available.

The CAT scanner, while a brilliant advance, has not been useful for examining the heart or lungs, since it takes from one to five minutes to produce its image, a speed that is too slow for capturing organs that move, and it does not have the capability of producing cinematic sequences. The DSR, however, can screen images of the heart in full color, isolated from the rest of the body. The heart picture can be screened in motion or still, at the option of the observer, by appropriate commands to the computer.

The observer can isolate the coronary arteries in action or an individual heart valve. Furthermore, the image of the heart or any other organ can be split into two segments, showing in detail the condition of every internal component. In the initial demonstrations motion pictures of scans of dogs were shown obtained with a small prototype of the machine.

Doctor Earl H. Wood, the Mayo Clinic Senior Consultant for biodynamic research, predicted that hospitals that do much open-heart surgery and cardiac catheterizations within five to ten years will have the new equipment to detect cardiac abnormalities. Unlike the CAT scanner, which was developed as a top-secret commercial venture, the DSR is being constructed with full public disclosure, financed by the federal government, the American Heart Association, and others. It is being built by Raytheon Company in neighboring Massachusetts. It appears that the DSR will scan its first patient within five years of the time the first CAT scanner became commercially available.

Exciting as this development appears to be, it raises serious questions about its effect on that old beastie, the cost of medical care. While CAT scanners are still being installed and at a cost of up to \$750,000, there is a haunting fear that they may be obsolete before their costs have been amortized. The new equipment will cost four times as much. Doctor Sidney Wolfe of Ralph Nader's group suggests that the new machine be called — "CAT-Ship Gallactia". He claims, somewhat controversially, that there is no evidence that even the now conventional CAT scanners "make people better". He

argues that the capability of DSRs to detect lung tumors earlier may not be all that significant. "Either you screen everyone," he says, "or you examine someone with a DSR after you suspect something may be wrong. With lung cancer that's usually too late."

There will undoubtedly be battles over who will be permitted to acquire this breathtaking new equipment. One was suggested that DSRs be limited to a total of three: one for New York, one for Chicago, and one for Los Angeles. So even before the first DSR scanner has been built, we are confronted with the possible rapidly accelerated obsolescence of CAT scanners, who will be permitted to purchase the new machine, and whether the whole project is a justified cost in the present inflationary climate. There is irony in the fact that the federal government, which decries the escalation of medical care costs, is in the ambiguous position of supporting projects such as this. It will be interesting to watch this developing story.

Did You Know?

At the Rhode Island Medical Society meeting of September 1, 1818 it was voted to send a delegate to a meeting of representatives of the northern states on the establishment of a National Pharmacopoeia.

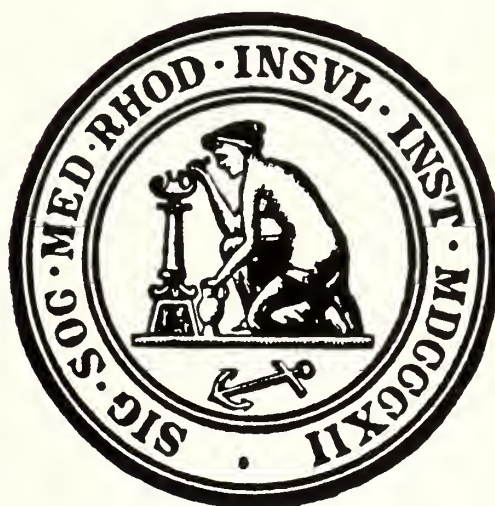
A national convention subsequently was held in Washington, DC in 1820 and adopted the first National Pharmacopoeia. In 1822 the Rhode Island Medical Society resolved to "recommend to the apothecaries of this state the Pharmacopoeia of the United States, that it may be generally adopted as a standard for the preparation of medicine."

Thus the society early lent its support to an important reform.

Rhode Island Medical Journal

May, 1979

Vol. 62, No. 5



Commencement Issue

See Special Report on SHCC

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Contraindicated: Known hypersensitivity to the drug. Children under 6 months of age. Acute narrow angle glaucoma, may be used in patients with open angle glaucoma who are receiving appropriate therapy.

Warnings: Not of value in psychotic patients. Caution against hazardous occupations requiring complete mental alertness. When used adjunctively in convulsive disorders, possibility of increase in frequency and/or severity of grand mal seizures may require increased dosage of standard anticonvulsant medication; abrupt withdrawal may be associated with temporary increase in frequency and/or severity of seizures. Advise against simultaneous ingestion of alcohol and other CNS depressants. Withdrawal symptoms (similar to those with barbiturates and alcohol) have occurred following abrupt discontinuance (convulsions, tremor, abdominal and muscle cramps, vomiting and sweating). Keep addiction-prone individuals

Usage in Pregnancy: Use of minor tranquilizers during first trimester should almost always be avoided because of increased risk of congenital malformations as suggested in several studies. Consider possibility of pregnancy when instituting therapy; advise patients to discuss therapy if they intend to or do become pregnant.

Precautions: If combined with other psychotropics or anticonvulsants, consider carefully pharmacology of agents employed. Drugs such as phenothiazines, narcotics, barbiturates, MAO inhibitors and other antidepressants may potentiate its action. Usual precautions indicated in patients severely depressed, or with latent depression, or with suicidal tendencies with latent depression, or with suicidal tendencies. Observe usual precautions in impaired renal or hepatic function. Limit dosage to smallest effective amount in elderly and debilitated to preclude ataxia or over-

hypotension, changes in libido, nausea, fatigue, depression, dysarthria, jaundice, skin rash, ataxia, constipation, headache, incontinence, changes in salivation, slurred speech, tremor, vertigo, urinary retention, blurred vision. Paradoxical reactions such as acute hyperexcited states, anxiety, hallucinations, increased muscle spasticity, insomnia, rage, sleep disturbances, stimulation have been reported; should these occur, discontinue drug. Isolated reports of neutropenia, jaundice, periodic blood counts and liver function tests advisable during long-term therapy.



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Division of Hoffmann-La Roche Inc.

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before treatment. If an allergic reaction occurs, discontinue the drug and treat with the usual agents (e.g., epinephrine or other pressor amines, antihistamines, or corticosteroids).

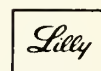
Precautions: Use with caution in individuals with histories of significant allergies and/or asthma. Do not rely on oral administration in patients with severe illness, nausea, vomiting, gastric dilatation, cardiospasm, or intestinal hypermotility. Occasional patients will not absorb therapeutic amounts given orally. In streptococcal infections, treat until the organism is eliminated (minimum of ten days). With prolonged use, nonsusceptible organisms, including fungi, may overgrow; treat superinfection appropriately.

Adverse Reactions: Hypersensitivity, including fatal anaphylaxis. Nausea, vomiting, epigastric distress, diarrhea, and black, hairy tongue. Skin eruptions, urticaria, reactions resembling serum sickness (including chills, edema, arthralgia, prostration), laryngeal edema, fever, and eosinophilia. Infrequent hemolytic anemia, leukopenia, thrombocytopenia, neuropathy, and nephropathy, usually with high doses of parenteral penicillin.

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Rhode Island Medical Society

SPECIAL REPORT

The Preliminary Draft of the State Health System Plan

In accordance with federal Public Law 93-641, the Rhode Island Department of Health has circulated in draft form the plan tentatively approved by the 30 member Statewide Health Coordinating Council (SHCC), which represents the product of two years of deliberations. The plan comprises almost 800 pages in two volumes, each the size of a telephone book. A transcript of the meetings would fill many volumes. It is therefore quite impossible to summarize or compress the contents or extract them in a manner which would permit all, or even a major portion of the text to be adequately represented.

The purpose of this presentation, however, is to apprise our readers of the informational thrust of the document and to provide condensation in extract form of most, or at least many of the statements and conclusions of interest or importance to physicians. All statements are quoted directly from the text. No editorial comment is feasible here, although it should be emphasized that some of the statistical methods have been questioned by knowledgeable observers. It should further be noted that tentative approvals were not always unanimous.

Following internal review and public hearings a final State Health System Plan will be approved. The Plan will then be forwarded to the Department of HEW, which, in accordance with its procedures, will accept the plan and use it as a guideline for changes in the delivery of all health care.

Seebert J. Goldowsky, MD, Editor-in-Chief
Rhode Island Medical Journal

Public Law 93-641. Public Law 93-41, the National Health Planning & Resources Development Act of 1974, as signed by President Gerald Ford on January 4, 1975. The Act states that "the achievement of equal access to quality health care at a reasonable cost is a priority of the Federal Government." The Rhode Island Department of Health was designated on July 1, 1976, under Section 1536 of the Law, to administer the health planning and resource development program in Rhode Island. Governor Joseph Garrahy appointed a thirty (30) member Statewide Health Coordinating Council (SHCC) in 1977 to participate in the new health planning responsibilities. The SHCC includes both health service providers and a majority of health service consumers.

Under Section 1523 of Public Law 93-641, the State of Rhode Island is required to produce a State Health System Plan. There are two major steps in this process. First, the Department of Health staff assembles a Preliminary or Draft plan, utilizing input

from various community agencies. Second, the "SHCC" reviews the staff draft, revises it, and approves a final State Health System Plan, after holding a series of public hearings. This summary is based on the Preliminary or Draft State Health System Plan, not the final SHCC Plan.

Shifting Needs. The health needs of Rhode Island are changing as a result of demographic (population), epidemiologic (disease) and geographic shifts.

In 1960, the age group 0-14 represented 30% of Rhode Island's population. Today, the 0-14 group constitutes approximately 24% of the state's population. In 1990, this percentage will decrease to about 17%. Therefore, the aggregate needs of children are becoming relatively less important in the state. In 1960, the population group "65 years old and older" represented 10% of Rhode Island's population. Today, the 65+ group constitutes approximately 12% of the state's population. In 1990, this per-

centage will increase to about 14%. Thus, the special health needs of the elderly are becoming more critical in the state. In short, Rhode Island's population profile is "aging." The longterm implications of an aging population could be very costly to Rhode Island, unless successful action is taken in the very near future. During the next 25 years, an opportunity will exist to intervene in the lifestyle and environment of the "baby boom" population in order to attempt to avert a crisis in illness and in health resources utilization between 1990 and 2030.

In terms of disease patterns, the state has witnessed a shift from acute, infectious diseases to chronic, degenerative diseases. In 1900, influenza and pneumonia, tuberculosis, and diarrhea were the three leading causes of death in Rhode Island. Today, the three leading causes of death are heart disease, cancer, and stroke. This epidemiologic revolution requires the health service system to move from an episodic to an ongoing form of health service delivery.

The population of Rhode Island is redistributing itself geographically. In 1900, 41% of the state's population was located in the City of Providence, whereas only 18% of Rhode Island's population currently resides there. In 1960, 41% of the state's population was located in the urban, industrial cities of Providence, Pawtucket, Central Falls, and Woonsocket. Only 33% of Rhode Island's population resided in these cities in 1975. The explosion of automobile use and highway construction over the last thirty years, has resulted in the suburbanization of the state. This, in turn, presents the health care system with new challenges in terms of health care accessibility.

It is interesting to note that Rhode Island's total population has dropped 1.6 percent since 1970. Obviously, this trend has a significant impact on the need for health services in the state. Finally, Rhode Island is the smallest state in terms of land area, and it is the second most densely populated state. Therefore, it should be possible to provide hospital, nursing home and other facility-based services more efficiently than in other less densely populated states.

Market Failure. Economic theory holds that a perfectly competitive market is the most efficient allocator of scarce resources. According to classic economic theory, the forces of supply and demand in the marketplace will achieve the greatest good for all. However, the health care system does not resemble a competitive market. The average consumer of health services does not know when medical services are required, or what medical services are needed for specific types of health problems. In any event, health service consumers are not free to select the medical service of their choice. For the most part, physicians decide what services are appropriate for particular patients. Further, the physician, not the patient, usually decides when to discontinue medical services. As a result of these considerations, the health service recipient is not a "consumer" in the usual sense of the word. In the medical market, it is the provider who both selects and delivers the product or service.

In addition, the widespread existence of third party payors (eg Blue Cross, Blue Shield, Medicare and Medicaid), severely distorts the normal economic transaction. Sixty-eight percent (68%) of the health

From the President:

This report on the SHCC proceedings is a report to the Rhode Island Medical Society of the results of two years of deliberations in bi-monthly sessions held at the Department of Health. I am a member of the SHCC Committee and have attended and participated in these meetings.

The work of the Committee is not completed, nor has it been approved, and when the plan is completed, its recommendations will not take effect outside of the structure of existing laws. No rules or regulations will be formulated out of the plan, unless such are called for by law.

However, the future of legislation affecting health care in our State will certainly be guided by some of the recommendations which you will read on these pages. Indeed it is possible, in time, that many of the recommendations will be formulated into laws, rules, and regulations.

It is our responsibility as members of the medical profession to have a constructive voice in the shaping of the future of health care in our state. Please contact me and offer your participation.

I am very grateful to Doctor Goldowsky for his excellent work in the preparation of this Special Report.

Joseph E. Caruolo, MD

bills in Rhode Island are paid by so-called "third parties." In fact, 88.6% of the state's hospital bills are paid by third parties. Therefore, at the time a health service is provided, neither the consumer, nor the provider, is truly cost conscious. It is often said that both the consumer and the provider are insulated from the cost of medical care.

Medical care should be delivered on the basis of need, rather than the ability to pay. Given that a true competitive market does not exist for medical care, planning becomes crucial to the efficient allocation of scarce resources within the health sector.

Rising Costs. Of all the forces which are currently influencing the state's health care system, the most powerful is the rapid escalation of health care costs. In 1950, the Rhode Island population devoted approximately 4.5% of its dollars to health care. Today, more than double that percentage of the state's "gross product" is devoted to health care — 10%. In 1950, the per capita health

expenditure in Rhode Island was about \$80. Today, the per capita health expenditure is 10 times larger — \$800.

Rhode Islanders currently spend about \$800 million per year on health care. Forty-five percent (45%) of these dollars are devoted to hospital expenditures — the largest item in the state's total health care bill. Per capita hospital expenditures in Rhode Island are 20% higher than the national average.

Most alarming of all, health care expenditures have been increasing at a rate of 12% annually in Rhode Island. In fact, the rate of inflation has been greater in the health care sector than in the general economy. In addition, Rhode Islanders are in a relatively poor position to absorb these increasing health care costs. When per capita income is adjusted to reflect the cost of basic necessities, Rhode Island ranks a poor 46th out of the 50 states. On an unadjusted basis, the state ranks 26th in per capita personal income.

Cap and Reallocate. Many Rhode Islanders are understandably con-

Tactical Priorities

R. I. State Health System Plan

- One**
- Limit Surgical Privileges
 - Promote School Health Education
 - Focus Drug Control On The Most Dangerous Drugs
 - Improve Disease Prevalence Estimates
 - Establish Subarea Boards Of Review
 - Rationalize Demand Responsive Transportation
 - Expand Public Health Information
 - Institute Patient Care Management
 - Expand Childhood Immunizations
 - Inaugurate Physician Practice Location Services
 - Correct Road Hazards
 - Expand Fluoridation Of Public Water
 - Achieve Universal Prenatal Care
 - Establish A Physician Residency Commission
 - Improve Consumer Cost Consciousness
 - Expand The WIC Supplemental Food Program
 - Undertake Occupational Disease Studies

-
- Two**
- Develop Comprehensive Primary Care Centers
 - Improve Hospital Reimbursement
 - Institute Proven Hospital Admission Scheduling And Control Systems
 - Initiate A Physician Certificate Of Need Program
 - Establish A Full Employment And Training Policy
 - Expand Counseling Services In Schools
 - Adopt Efficacy As A Certificate Of Need Criterion
 - Conduct Population-Based Medical Care Evaluation Studies And Preadmission Certification
 - Carry Out A Health Determinants Study
 - Salary Hospital-Based Anesthesiologists, Pathologists, And Radiologists
 - Strengthen Driving Laws
 - Increase Highway Safety Enforcement
 - Give Special Considerations To Health Maintenance Organizations (HMOs)
 - Institute Statewide Capital Budgeting For Hospitals

-
- Three**
- Sponsor Employee Risk Reduction Programs
 - Establish Evaluation And Placement Units For Longterm Care Patients
 - Require Seatbelt Use In Equipped Vehicles
 - Implement Handgun Regulation
 - Expand Exercise Facilities
 - Reduce The Number Of Registered Nurse Training Programs
 - Create A Statewide Hospital Capital Development Fund
 - Eliminate High Sugar-Content Foods In Schools
 - Adopt Minimum Size Hospital Standards
 - Develop Mental Health Outreach
 - Regulate Harmful Advertising
 - Strengthen Certificate Of Need Through Decertification
 - Increase State Excise Taxes On Products Harmful To Health
 - Expand Health Insurance Coverage
 - Promote Residential Fire And Safety Inspections

concerned about the rapidly increasing cost of health care. Containing the cost of health care is clearly one of the major challenges facing the state. At the same time, many Rhode Islanders see the need to expand certain health services such as day health services, ambulatory mental health services and rehabilitative care, to mention a few. The aging of the population and the predominance of chronic diseases (such as heart disease, cancer, mental illness and arthritis) necessitate the delivery of new types of health services in new settings.

The convergence of these two imperatives — cost containment and service diversification — gives rise to one of the major strategies proposed in the Preliminary Plan: “cap and reallocate.” The state must place a lid on its health care expenditures. Rhode Island currently spends more per capita on health care than most states in the United States and in the world. In fact, Rhode Island ranks among the 50 states in per capita hospital expenditures as a percent of per capita income. The answer to our health problems is not more money in the form of open-ended reimbursement. We must expand needed health services through budget reallocations. The Preliminary Plan recommends shifting resources from inpatient hospital services to alternative forms of health care delivery such as hospice or home health care, ambulatory primary care and selected preventive health services. The experience of Health Maintenance Organizations (HMOs) in the United States indicates that hospitalization in Rhode Island can be safely reduced. Hospital use in Rhode Island is currently 2½ times greater than it is in Health Maintenance Organizations.

The Preliminary Plan targets a reduction of 20% in the rate of hospitalization in Rhode Island. If the state can reduce its hospitalization rate by 20%, there will be enough dollars available to pay for needed health services without significantly increasing health care expenditures. Expanding enrollment in Health Maintenance Organizations is an attractive way to reduce hospitalization in the state. The Preliminary Plan advocates plans to encourage the development of HMOs in Rhode Island. Currently, only about 3% of Rhode Island's population belong to HMOs. Reducing the hospital bed supply in the state is obviously another, albeit more direct, method of reducing the state's hospitalization rate.

The continuing rise in health care costs has not been accompanied by commensurate increases in the health status or health condition of the population. The death rate in the state has remained fairly steady for some time now.

This circumstance necessitates the second major reallocation which is required. We need to reallocate substantial portions of our health care expenditures from curative health services to environmental and lifestyle programs. There are four major determinants of health, but we often behave as if only medical care impacts our level of health.

Environment and lifestyle have a much more profound impact on our health than does the medical care that we receive. For example, it has been estimated that 80% of all cancers are environmentally induced. The occupational environment is receiving increasing attention as a source of health risks. As another example, it has been widely asserted that eliminating the habit of cigarette smoking would have a greater impact upon health than any other single accomplishment in the health field. If we truly want to improve the health of the people in the state, we must devote a greater portion of our health resources to environmental and lifestyle change.

During the 1950s there appeared to be no limit to the nation's resources. Conservation was the least of our worries. The 1970s have been a painful period for all Americans, because we have learned that there are limits to all our precious resources: air, water, food, shelter, energy, etc. All sectors of American life must now move from an expansionist to a budgeting psychology. Health care is no exception. In health care, we must learn to control expenditures and to spend more effectively. We must place limits on operating and capital expenditures in the health care system. Thus, the Preliminary Plan proposes modification to the prospective hospital budgeting program, as well as a statewide hospital capital development fund and a cap for hospital capital development. At the same time, we must spend our available health care dollars on the most cost effective services and programs. Consequently, the Preliminary Plan calls for the development of multi-institutional boards in each secondary health service planning subarea to review hospital plans and applications for certifi-

cate of need; it also proposes the inclusion of medical efficacy as a criterion in all certificate of need reviews.

National Health Priorities

1. The provision of primary care services for medically underserved populations, especially those which are located in rural or economically depressed areas.

2. The development of multi-institutional systems for coordination or consolidation of institutional health services (including obstetric, pediatric, emergency medical, intensive and coronary care, and radiation therapy services).

3. The development of medical group practices (especially those whose services are appropriately coordinated or integrated with institutional health services), health maintenance organizations, and other organized systems for the provision of health care.

4. The training and increased utilization of physician assistants, especially nurse clinicians.

5. The development of multi-institutional arrangements for the sharing of support services necessary to all health service institutions.

6. The promotion of activities to achieve needed improvements in the quality of health services, including needs identified by the review activities of Professional Standards Review Organizations under part B of Title XI of the Social Security Act.

7. The development of health service institutions of the capacity to provide various levels of care (including intensive care, acute general care, and extended care) on a geographically integrated basis.

8. The promotion of activities for the prevention of disease, including studies of nutritional and environmental factors affecting health and the provision of preventive health care services.

9. The adoption of uniform cost accounting, simplified reimbursement, and utilization reporting systems and improved management procedures for health service institutions.

10. The development of effective methods of educating the general public concerning proper personal (including preventive) health care and methods for effective use of available health services.

Rhode Island Fundamental Goals

Fundamental Health Status Goals

To maximize the physical and mental health of the Rhode Island population; specifically, to extend life expectancy at birth, to minimize preventable and premature death, to minimize disease and disability, to minimize the negative physical and mental impacts of disease and disability, to develop the potential physical capabilities of the population, and to promote the population's sense of well-being.

Fundamental Health Service Goals

To organize, finance, and deliver environmental and personal health services in an effective and efficient manner; specifically, to develop health services which are required by the population, to make widely available only those health services which have been proven to be safe and efficacious, to deliver health services based on need rather than ability to pay or some other arbitrary criterion, to deliver health services in a resource-conserving way, to deliver health services in a manner which is generally acceptable to the population, to foster a clear understanding of health services, to provide for equal access to health services, and to provide for continuity in the delivery of health care.

Caveats With respect to the preceding goals, the following facts should be kept in mind: 1. The statement of fundamental goals represents only one of many steps in the health system planning process. 2. Once fundamental goals are set, future health system planning decisions should be consistent with them. 3. When individual goals conflict with one another, tradeoffs between goals need to be weighed and emphasis placed accordingly. 4. It should be recognized that these fundamental goals are not necessarily mutually exclusive. 5. Since resources are limited, goals, and targets or objectives must ultimately be ranked.

Rhode Island Health Service Goal Statements

Short-Stay Hospital Utilization — Total Patient Days

Goal. Rhode Island's age-adjusted use of short-stay hospital days should not exceed 800 patient days per 1000 population.

Target. By 1983 the age adjusted use of short-stay hospital days in Rhode Island should not exceed 1000 patient days per 1000 population. No secondary health services planning subarea (HSPS) should experience an age-adjusted rate of use in excess of 1100 patient days per 1000 in 1983.

Short-Stay Hospital Utilization — Pediatric Services

Goal. The population aged 0-14 years in Rhode Island should use short-stay hospital services at a rate no greater than 225 patient days per 1000 per year, and the statewide average occupancy of pediatric units should be no less than 75%.

Target. By 1983, the population aged 0-14 years in Rhode Island should use short stay hospital services at a rate no greater than 250 patient days per 1000 per year, and the statewide average occupancy of pediatric units should be no less than 70%.

Short-Stay Hospital Utilization — Obstetric Services

Goal. Obstetric service capacity in Rhode Island should be allocated to insure a minimum of 2000 births (500 births in relatively inaccessible areas) per obstetric unit and to insure a 95% level of confidence against overflow in each unit.

Target. By 1983 there should be no obstetric unit in Rhode Island which delivers fewer than 1000 births per year (500 births in relatively inaccessible areas) nor should there be any unit with a service capacity beyond the 95% level of confidence.

Surgery

Goal. Surgical intervention should be employed only to the extent that it improves the health status of the population of Rhode Island.

Target. By 1983 the number of discharges with surgery per 1000

population in Rhode Island should be reduced by 20%.

Nursing and Personal Care Home Utilization

Goal. The capacity to deliver nursing and personal care home services should be consistent with the size of the population at risk.

Target. By 1983 the patient day use rate for nursing and personal care homes in Rhode Island should not exceed 26 days per person aged 65 and over per year.

Nursing and Personal Care Home Services — Inappropriate Utilization

Goal. Nursing and personal care home residents in Rhode Island should receive health services of a level consistent with their medical needs.

Target. By 1983 the prereview level of care received by nursing and personal care home residents in Rhode Island should differ from the recommended level in no more than 10% of the cases at each level.

Home Health Care Capacity

Goal. Home health services of the appropriate level of intensity should be available to all Rhode Islanders who need these services.

Target. By 1983 there should be in Rhode Island the capacity to produce at least 250,000 home health care visits for 15,800 cases through coordinated home health care programs. Priority should be given to the development of basic and intermediate services which offer alternatives to long-term institutional living, and funding for this development should come from re-allocation of institutional budgets.

Physician Visit Capacity

Goal. Physician visit capacity should equal the volume of physician visits needed by the population.

Target. By 1983 Rhode Island's physician visit capacity should be equal to 3,800,079 visits.

Productivity of Health Expenditures

Goal. The productivity of health expenditures should increase over time in Rhode Island.

Target. Real expenditures for in-patient hospital services in Rhode Island should be reduced by 3% per

annum. That is, over the next five years annual increases in in-patient hospital expenditures in Rhode Island should be 3% less than the rate of inflation in the medical care sector (i.e. the medical care price index). Reallocated resources should be allocated to lifestyle interventions, environmental interventions, and long-term outpatient (e.g. home care, day care, and ambulatory care) health care for the elderly and chronically disabled and cost effective short-term out-patient care (e.g. ambulatory surgery).

Rhode Island Health Manpower Strategic Intervention Statements

Total Physicians

Long Run Intervention Recommendation. The total number of physicians providing patient care in Rhode Island should equal the number required by a well-organized health care delivery system.

Short Run Intervention Recommendation. In 1983 the total number of nonfederal physicians providing patient care should be limited to 1479.

Primary Care Physicians

Long Range Intervention Recommendation. In Rhode Island the percentage of the total number of nonfederal active patient care physicians who specialize in primary care should equal the percentage required by well organized health care delivery system to produce the primary care physician visits required by the state's population.

Short Range Intervention Recommendation. In 1983 the percentage of the total number of nonfederal, active patient care physicians who specialize in primary care in Rhode Island should equal approximately 50% — of 1479 nonfederal active patient care physicians targeted for 1983, 716 should specialize in primary care.

Pediatricians

Long Range Intervention Recommendation. The total number of non-federal pediatricians active in patient care in Rhode Island should equal the

number required by a well organized health care delivery system to produce the number of pediatrician visits demanded by the state's population age 0-14.

Short Run Intervention Recommendation. In 1983 the total number of nonfederal pediatricians active in patient care should be 84, a number sufficient to produce the 1983 target capacity of 513,903 visits under Rhode Island's present organizational pattern of health care delivery.

Surgeons

Long Range Intervention Recommendation. The total number of nonfederal physicians active in patient care in Rhode Island with primary specialties in the ten board certifiable surgical specialties should equal the number required to provide the surgical services required by the state's population.

Short Range Intervention Recommendation. In 1983 the number of nonfederal physicians active in patient care in Rhode Island with primary specialties in the board certifiable surgical specialties (excluding those specializing in obstetrics and gynecology) should be limited to 272.

Dentists

Long Run Intervention Recommendation. The total number of nonfederal dentists providing patient care in Rhode Island should equal the number required by a well organized dental care delivery system to produce the number of dental visits demanded by the state's population.

Short Run Intervention Recommendation. In 1983 the number of nonfederal dentists providing patient care in Rhode Island should be 496. Their average productivity should be increased to 3338 dental visits annually.

Rhode Island Health Services and Facilities Control Tactics and Strategies

Strengthen Certificate of Need

Tactical Recommendation. Certificate of need law in Rhode Island should be expanded to include decer-

tification for facilities, equipment and programs currently extant in hospitals and nursing homes.

Efficacy and Certificate of Need

Strategic Recommendation. Efficacy should be included as a criterion in all certificate of need and appropriateness reviews conducted in Rhode Island. All applicants should specifically address the question of efficacy in their certificate of need proposals.

Health Service Boards.

Tactical Recommendation. Health service boards should immediately be established in each secondary health services planning subarea (HSPS). One third of each board should be composed of representatives of HSPS hospitals, one third representatives of other HSPS providers (e.g. primary care, long-term care), and one third representatives of the HSPS public (e.g. consumers, elected officials). Starting in fiscal year 1980, hospitals' long and short range plans should be reviewed and commented upon by the appropriate health service board. Starting in fiscal year 1981, all applications for certificate of need should likewise be reviewed and commented upon before submittal to the Rhode Island Department of Health.

Minimum Efficient Size Standards

Tactical Recommendation. To the extent practical and feasible, planning, regulatory and reimbursement policies should be consistent with the following minimum size standards for hospital facilities: 1. Free-standing short-stay hospitals in Rhode Island should have a minimum capacity of 250 beds. 2. Adult medical-surgical units in Rhode Island's hospitals should attain a minimum occupancy of 90% and have at least 100 beds. 3. Obstetrics units in Rhode Island's hospitals (excepting on Aquidneck Island) should have at least 32 beds and an average daily census of at least 24 obstetric patients. All obstetric units should attain occupancy rates consistent with a planned 95% confidence level against overflow. 4. Pediatric units in Rhode Island's hospitals should have at least 20 beds and an average daily census of at least 13 pediatric patients. Pediatric units experiencing an average daily census in excess of 25 patients should attain a minimum occupancy of 75%.

Utilization Review

Tactical Recommendations. 1. Medical Care Evaluation (MCE) studies of observed wide geographic variations in hospital use (especially surgery) should be performed and the results published. At least two MCE studies should be completed annually starting in 1979. 2. A preadmission certification program for selected elective patients should be implemented in 1979. Selection of conditions for preadmission certification should in part be based on MCE studies.

Admission Scheduling and Control

Tactical Recommendation. 1. All short-stay hospitals in Rhode Island participate in uniform, centrally-monitored institutional admission scheduling and control systems. By 1980 there should be an agreed upon system which in turn could be implemented by 1981. Kent County Hospital should be the first hospital to implement the system. Also, efforts should immediately be made in all hospitals to schedule elective patients during summer months. 2. There should be incentives to elective hospital patients who chose to be admitted on a call-in basis.

Certificate of Need for Physician Manpower

Tactical Recommendation. Rhode Island should control the numbers, specialties, and practice locations of nonfederal physicians providing patient care in the state through Certificate of Need for physician manpower.

Associated Strategies:

Total Physician Intervention Recommendation. In 1983 the total number of nonfederal physicians providing patient care should be 1479.

Primary Care Physician Intervention Recommendation. In 1983 the percentage of the total number of nonfederal active patient care physicians who specialize in primary care in Rhode Island should equal approximately 50% of the 1479 nonfederal active patient care physicians targeted for 1983, 711 should specialize in primary care.

Pediatrician Intervention Recommendation. In 1983 the total number of nonfederal pediatricians active in patient care should be 84, a number sufficient to produce the 1983 target

capacity of 513,903 visits under Rhode Island's present organizational pattern of health care delivery.

Surgeon Intervention Recommendation. In 1983 the number of nonfederal physicians active in patient care in Rhode Island with primary specialties in the board certifiable surgical specialties (excluding those specializing in obstetrics and gynecology) should be 272.

Specialty Support Physician Intervention Recommendation. In 1983 the total numbers of nonfederal active in patient care anesthesiologists, pathologists, and radiologists in Rhode Island should be 50, 37, and 33, respectively.

Cooperative Practice Location Services

Definition. Practice location services are defined as the provision of data that indicates the relative need for primary care physician and dental services in the 18 Primary Health Service Planning Subareas of Rhode Island to primary care physicians and dentists, respectively, who are contemplating the establishment or relocation of practice in the State.

Tactical Recommendation. In cooperation with the Rhode Island Medical Society and the Rhode Island Dental Association the Rhode Island Department of Health should provide practice location services to primary care physicians and dentists.

Associated Strategies

Primary Care Physician Spatial Distribution. By 1983 no Primary

Health Service Planning Subarea should have a primary care physician spatial ratio of less than 0.85.

Dentist Spatial Distribution. In 1983 no Primary Health Service Planning Subarea should have a dentist spatial ratio of less than 0.85.

Limit Surgical Privileges

Tactical Recommendation. By 1983 the initial granting of hospital surgical privileges should be limited to board certified and board eligible surgeons. Board eligible surgeons would be allowed four years to become board certified.

Associated Strategy

Surgeon Intervention Recommendation. In 1983 the number of nonfederal physicians active in patient care in Rhode Island with primary specialties in the board certifiable surgical specialties (excluding those specializing in obstetrics and gynecology) should be 272.

Residencies

Tactical Recommendation. A physician residency commission should be established to decide the appropriateness of present and proposed residency programs in Rhode Island in terms of the medical service needs of the Rhode Island population and in terms of the needs for graduate medical education in Rhode Island. The physician residency commission (PRC) would include one representative from each of the following: Brown University Medical School, the

Rhode Island Medical Society, the Hospital Association of Rhode Island, the Rhode Island Budget Office, the Rhode Island Blue Cross Association, and the Rhode Island Department of Health.

Associated Strategies. 1. Total Physician Intervention Recommendation. 2. Primary Care Physician Intervention Recommendation. 3. Pediatrician Intervention Recommendation. 4. Surgeon Intervention Recommendation. 5. Specialty Support Physician Intervention Recommendation. 6. Discourage Inefficacious Services. 7. Encouragement of Efficient Hospital Use from the Institutional Perspective.

Salary Hospital-Based Specialty Support Physicians

Tactical Recommendation. By 1983 all hospital based specialty support physicians would be compensated by salary.

Nurse Training

Tactical Recommendation. The number of registered nurses trained in the state should be limited and controlled by closing at least one and no more than four basic registered nurse training programs in Rhode Island.

Associated Strategy

Registered Nurse Intervention Recommendation. In 1983 the total number of RNs employed in nursing should be 5,533.

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The Brown University Program in Medicine: Class of 1979

On June 4, 1979, Brown University will graduate its fifth class of physicians, 60 men and women whose names, faces, and future internships are proudly recorded elsewhere in this *Journal*.

These graduates have labored greatly in order to achieve this special distinction, the right to be called *physician*. For four trying years they have been prodded, tested, and judged by an array of professors. Hardly a month of these years has been free of travail, anxiety, or obstacles to be overcome; yet remarkably few of the cohort who began the journey in September, 1975 have dropped out, a tribute to the resiliency and commitment of these students, and perhaps to the sentence of our Admissions Committee.

The educational investment in each graduate has been equally immense. From the first Monday morning lecture in anatomy, through the labyrinth of diverse basic and clinical sciences, to the final clinical preceptorship in the unwinding weeks preceding graduation, each student has been in uninterrupted communication with a living chain of faculty numbering in the vicinity of eight hundred; many of these teachers are gifted, some are beloved, a few inspiring, an occasional one undistinguished (yet nevertheless useful in setting a bad example), but all collectively dedicated to the rigorous preparation of each graduate.

A few millenia ago a gentle physician said: "For unto whomsoever much is given, of him shall be much required." Few of us, practicing physicians, faculty, or physicians to be, can possibly envisage how much will be truly required of these new colleagues. It is virtually impossible to speculate upon the undefined burdens to be assumed or the professional ambience in which these graduates will function in the four or five decades ahead. What, for example, will be the role and responsibilities of medicine when this class celebrates its twenty-fifth anniversary in the year 2004? Given our intimacy with the language of science-fiction, it is probably easier to predict the instrumentation than the spirit prevailing in that future year. I pray, though, that the essential spirit of medicine will not have withered under the enlarging burdens of enabling technologies and governmental supervisions; I hope that in the year 2004 there still will be a personal transaction between patient and physician; and that the physician may still be able to say to the vulnerable and afflicted: "Awake, awake, stand up! I have taken out of thine hand the cup of trembling."

Stanley M. Aronson, MD
Dean of Medicine
Brown University

Physician's Oath

Now being admitted to the high calling of the physician,
I solemnly pledge to dedicate my life to the care of the
sick, the promotion of health, and the service of humanity.

In the spirit of those who have inspired and taught me, I
will seek constantly to grow in knowledge, understanding,
and skill and will work with my colleagues to promote all
that is worthy in the ancient and honorable profession of
medicine.

The health and dignity of my patient will ever be my first
concern. I will hold in confidence all that my patient
relates to me. I will not permit considerations of race,
gender, sexual preference, religion, nationality, or social
standing to come between me and my duty to anyone in
need of my services.

This pledge I make freely and upon my honor.

*Read on Graduation Day by the Class of 1979
Brown University Program in Medicine*

(Design by Richard Chace)



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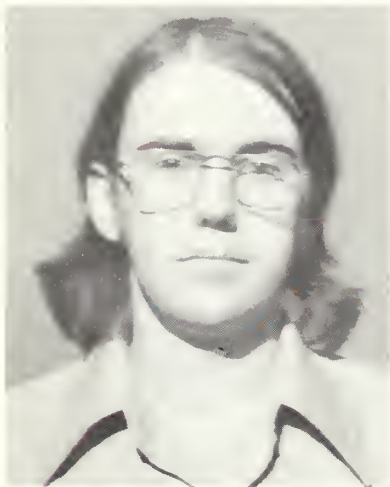
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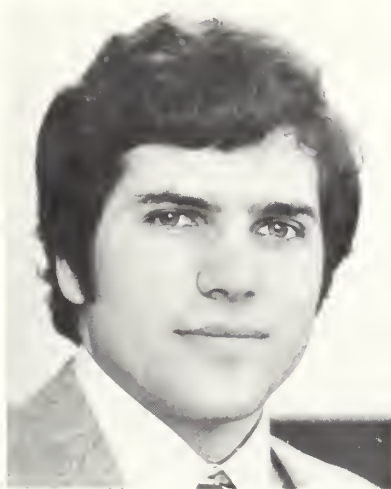
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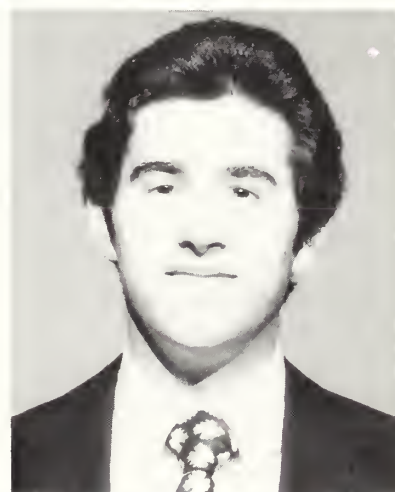
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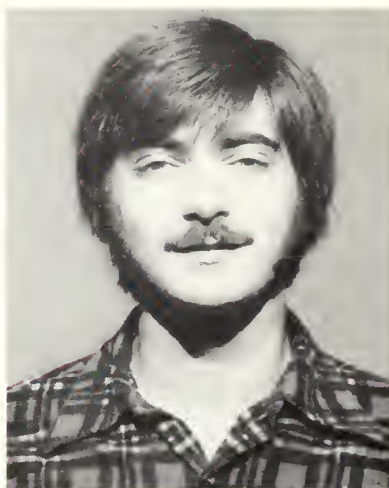
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The Same, But Oh So Different

By Richard Chace

In the latter half of 1974 and in the first half of 1975, an array of sixty-one personalities was selected to form one well-defined (or so it was hoped) group of individuals whose only common attribute was that he or she was a member of the Brown University Program in Medicine Class of 1979. The authors had consciously or unconsciously attempted to make "diversity" the byline of the day. And curiously enough, it was the incredible spectrum of this much sought-after diversity, the differences which gave each and every individual his own identity, that actually singled out the Class of 1979 as an entity in itself, a truly unique conglomerate.

Indeed, this process actually had begun several years prior to those mentioned above when the candidates for the Medical Education Program (MEP) had been recognized and, to use a current popular expression, the "roots" of the Class of 1979 extended into the undergraduate soil of Brown. At the beginning of the "traditional" four years of medical school all but nine of the Class of 1979 were hewn from the Medical Education Program. Also, several of the group of nine had received their pre-medical education at Brown University, the remainder arriving from a constellation of institutions of higher learning such as Harvard, MIT, Cornell, the University of Colorado, and the local University of Rhode Island and Providence College.

In spite of what seems to be a common background among the majority of the class members, diversity does exist. Interests vary among the Brown-trained from such

followings as religious studies, piano, and dance to more scientific disciplines including neurosciences, cancer chemotherapy, and research in platelet physiology and other hematologic studies.

With regard to advanced degrees other than MD, several of our classmates have started or completed studies toward Master of Medical Sciences, Master of Public Health, Master of Science, and Doctor of Philosophy. In fact, the latter will be received as a combined MD-PhD degree by a student who started with us but will, because of the time requirements involved, receive his degree in the near future.

A full one third of the original class was female. Black, Oriental, and Hispanic cultures were all represented. Native Americans and Americanized foreign-born all contributed to the further enrichment of the class.

In keeping with the spirit of diversity symbolized by the four points of the compass seen on page 152 of this issue of the *Journal* individual members of the Class of 1979 have the right to call numerous provinces their home. All sectors of the country, except for the Pacific Northwest, have sent their aspiring candidates to learn the "ancient and honorable" profession. There are those from the Pacific Coast, the Intermountain West, the Deep South, the Midwest, the Middle Atlantic, and the Northeast. In fact, sixteen of our fellow students are native Rhode Islanders, twelve having received their entire education in this state. Major metropolitan communities such as New York City, New Orleans, and Baltimore have their residents living and learning with representatives from other bustling metropolises namely, Dubois, Wyoming; Hornell, New York; Peterborough, New Hampshire; and Milford, Massachusetts.

Just as our origins are diverse, so also are our destinations. Hospitals in greater Providence

RICHARD CHACE, member of the graduating class of 1979 of the Brown University Program in Medicine.

will greet one sixth (ten) of the new graduates. Eight more class members will remain in the New England states other than Rhode Island, and twenty-two will remain in the Middle Atlantic region. The South will receive seven Brown graduates, the Midwest five, and the West eight. Only the states in the Southwest will not benefit from an association with a Brown University Program in Medicine Class of 1979 graduate. This geographic distribution is similar to that of the previous graduating classes.

At multiple hospitals and medical centers in the aforementioned areas the Class of 1979 will receive training in almost all of the medical specialties. This distribution further reflects the diverse spectrum of professional interests which highlights our group. Continuing with past trends, the majority of the class (greater than two thirds) have accepted postgraduate training positions in primary care medicine. The breakdown of the first year postgraduate specialties is as follows: internal medicine 34, family practice 4, pediatrics 8, surgery 5, obstetrics and gynecology 5, psychiatry 1, pathology 1, anesthesiology 1, and orthopedic surgery 1.

After the first year or two of training, several of the class members will pursue even more diverse specialties including ophthalmology, psychiatry, and neurosurgery; residencies in these fields have already been pre-arranged. Others have expressed interest in the fields of emergency medicine, hematology-oncology, plastic and reconstructive surgery, and pediatric neurology. It would probably be safe to bet that this is but the tip of the iceberg.

If the professional persuasions of the Class of 1979 appear divergent, what adjective would one use to describe the backgrounds, personal experiences, and individual interests of the members of the class? An all-inclusive description could obviously become overwhelming, but taste this sample. We have a pilot and motorcross rider, a student of the martial arts, a cook, a French horn enthusiast, a Peace Corps veteran, a rodeo fan, an accomplished swimmer, a few sailors, several mothers, and a small group of winter camping enthusiasts whose sanity is questioned by many.

On June 4, 1979 sixty new physicians will enter the professional ranks. These sixty people are not the same ones who started in the

program four years ago. Some of our classmates have transferred or taken a temporary leave of absence, but in their places have come other personalities, differing interests, and further diversification. Having originated from various places, having received education at numerous institutions, pursuing different interests both privately and professionally, and soon spreading forth from Rhode Island to travel and train in all parts of the country, the Brown University Program in Medicine Class of 1979 shares its most common denominator, its heterogeneity.

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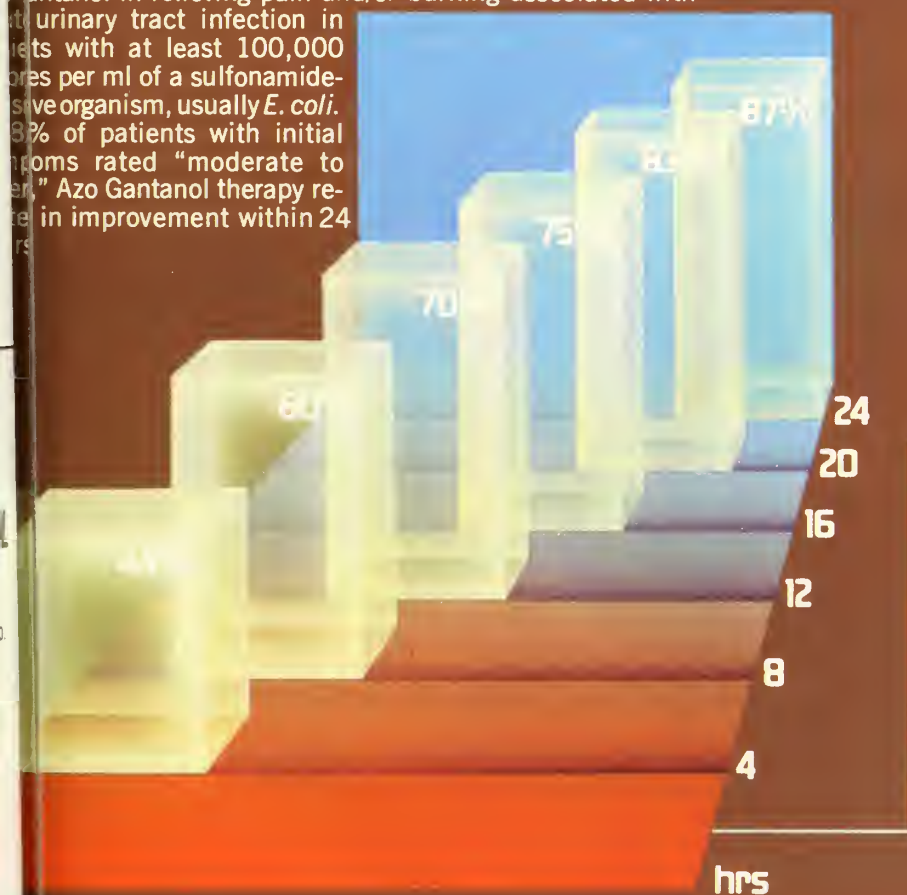
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Pain relief plus effective antibacterial action

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Each tablet contains 0.5 Gm sulfamethoxazole and 100 mg phenazopyridine HCl.

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Before prescribing, please consult complete product information, a summary of which follows:

Indications: In adults, urinary tract infections complicated by pain (primarily pyelonephritis, pyelitis and cystitis) due to susceptible organisms (usually *E. coli*, *Klebsiella-Aerobacter*, *Staphylococcus aureus*, *Proteus mirabilis*, and, less frequently, *Proteus vulgaris*) in the absence of obstructive uropathy or foreign bodies. **Note:** Carefully coordinate *in vitro* sulfonamide sensitivity tests with bacteriologic and clinical response; add aminobenzoic acid to follow-up culture media. The increasing frequency of resistant organisms limits the usefulness of antibacterials including sulfonamides. Measure sulfonamide blood levels as variations may occur; 20 mg/100 ml should be maximum total level.

Contraindications: Children below age 12; sulfonamide hypersensitivity; pregnancy at term and during nursing period; because Azo Gantanol contains phenazopyridine hydrochloride it is contraindicated in glomerulonephritis, severe hepatitis, uremia, and pyelonephritis of pregnancy with G.I. disturbances.

Warnings: Safety during pregnancy not established. Deaths from hypersensitivity reactions, agranulocytosis, aplastic anemia and other blood dyscrasias have been reported and early clinical signs (sore throat, fever, pallor, purpura or jaundice) may indicate serious blood disorders. Frequent CBC and urinalysis with microscopic examination are recommended during sulfonamide therapy.

Precautions: Use cautiously in patients with impaired renal or hepatic function, severe allergy, bronchial asthma; in glucose-6-phosphate dehydrogenase-deficient individuals in whom dose-related hemolysis may occur. Maintain adequate fluid intake to prevent crystalluria and stone formation.

Adverse Reactions: *Blood dyscrasias* (agranulocytosis, aplastic anemia, thrombocytopenia, leukopenia, hemolytic anemia, purpura, hypoprothrombinemia and methemoglobinemia); *allergic reactions* (erythema multiforme, skin eruptions, Stevens-Johnson syndrome, epidermal necrolysis, urticaria, serum sickness, pruritus, exfoliative dermatitis, anaphylactoid reactions, periorbital edema, conjunctival and scleral injection, photosensitization, arthralgia and allergic myocarditis); *G.I. reactions* (nausea, emesis, abdominal pains, hepatitis, diarrhea, anorexia, pancreatitis and stomatitis); *CNS reactions* (headache, peripheral neuritis, mental depression, convulsions, ataxia, hallucinations, tinnitus, vertigo and insomnia); *miscellaneous reactions* (drug fever, chills, toxic nephrosis with oliguria and anuria, periarteritis nodosa and L. E. phenomenon). Due to certain chemical similarities with some goitrogens, diuretics (acetazolamide, thiazides) and oral hypoglycemic agents, sulfonamides have caused rare instances of goiter production, diuresis and hypoglycemia. Cross-sensitivity with these agents may exist.

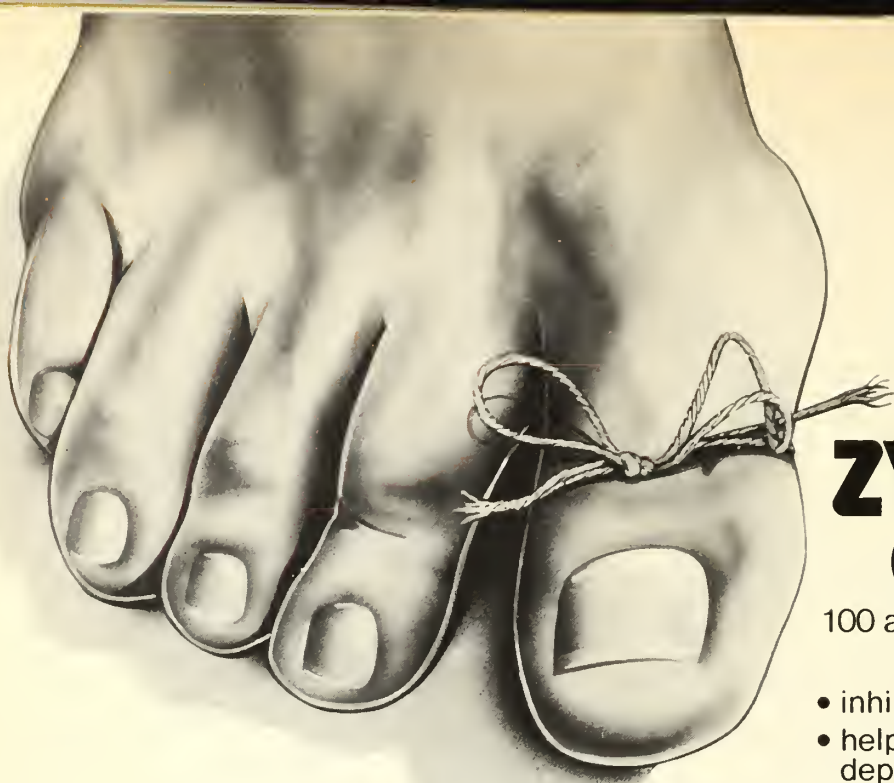
Dosage: Azo Gantanol is intended for the acute, painful phase of urinary tract infections. *Usual adult dosage:* 2 Gm (4 tabs) initially, then 1 Gm (2 tabs) B.I.D. for up to 3 days. If pain persists, causes other than infection should be sought. After relief of pain has been obtained, continued treatment with Gantanol (sulfamethoxazole) may be considered.

NOTE: Patients should be told that the orange-red dye (phenazopyridine HCl) will color the urine.

Supplied: Tablets, red, film-coated, each containing 0.5 Gm sulfamethoxazole and 100 mg phenazopyridine HCl—bottles of 100 and 500.



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A reminder

ZYLOPRIM (allopurinol)

100 and 300 mg scored Tablets

- inhibits uric acid formation
- helps prevent urate crystal depositions in synovia
- reduces risk of uric acid lithiasis

INDICATIONS AND USE: This is not an innocuous drug and strict attention should be given to the indications for its use. Pending further investigation, its use in other hyperuricemic states is not indicated at this time.

Zyloprim® (allopurinol) is intended for:

1. treatment of gout, either primary, or secondary to the hyperuricemia associated with blood dyscrasias and their therapy;
2. treatment of primary or secondary uric acid nephropathy, with or without accompanying symptoms of gout;
3. treatment of patients with recurrent uric acid stone formation;
4. prophylactic treatment to prevent tissue urate deposition, renal calculi, or uric acid nephropathy in patients with leukemias, lymphomas and malignancies who are receiving cancer chemotherapy with its resultant elevating effect on serum uric acid levels.

CONTRAINDICATIONS: Use in children with the exception of those with hyperuricemia secondary to malignancy. The drug should not be employed in nursing mothers.

Patients who have developed a severe reaction to Zyloprim should not be restarted on the drug.

WARNINGS: ZYLOPRIM SHOULD BE DISCONTINUED AT THE FIRST APPEARANCE OF SKIN RASH OR ANY SIGN OF ADVERSE REACTION. In some instances a skin rash may be followed by more severe hypersensitivity reactions such as exfoliative, urticarial and purpuric lesions as well as Stevens-Johnson syndrome (erythema multiforme) and very rarely a generalized vasculitis which may lead to irreversible hepatotoxicity and death.

A few cases of reversible clinical hepatotoxicity have been noted and in some patients asymptomatic rises in serum alkaline phosphatase or serum transaminase have been observed. Accordingly, periodic liver function tests should be performed during the early stages of therapy, particularly in patients with pre-existing liver disease. Patients should be alerted to the need for due precautions when engaging in activities where alertness is mandatory.

Nevertheless, iron salts should not be given simultaneously with Zyloprim. This drug should not be administered to immediate relatives of patients with idiopathic hemochromatosis.

In patients receiving Purinethol® (mercaptopurine) or Imuran® (azathioprine), the concomitant administration of 300-600 mg of Zyloprim per day will require a reduction in dose to approximately one-third to one-fourth of the usual dose of mercaptopurine or azathioprine. Subsequent adjustment of doses of Purinethol or Imuran should be made on the basis of therapeutic response and any toxic effects.

Usage in Pregnancy and Women of Childbearing Age. Zyloprim® (allopurinol) should be used in pregnant women or women of childbearing age only if the potential benefits to the patient are weighed against the possible risk to the fetus.

PRECAUTIONS: Some investigators have reported an increase in acute attacks of gout during the early stages of allopurinol administration, even when normal or sub-normal serum uric acid levels have been attained.

It has been reported that allopurinol prolongs the half-life of the anticoagulant, dicumarol. This interaction should be kept in mind when allopurinol is given to patients already on anticoagulant therapy, and the coagulation time should be reassessed.

A fluid intake sufficient to yield a daily urinary output of at least 2 liters and the maintenance of a neutral or, preferably, slightly alkaline urine are desirable to (1) avoid the theoretic possibility of formation of xanthine calculi under the influence of Zyloprim therapy and (2) help prevent renal precipitation of urates in patients receiving concomitant uricosuric agents.

Patients with impaired renal function require less drug and should be carefully observed during the early stages of Zyloprim administration and the drug withdrawn if increased abnormalities in renal function appear.

In patients with severely impaired renal function, or decreased urate clearance, the half-life of oxipurinol in the plasma is greatly prolonged. Therefore, a dose of 100 mg per day or 300 mg twice a week, or perhaps less, may be sufficient to maintain adequate xanthine oxidase inhibition to reduce serum urate levels. Such patients should be treated with the lowest effective dose, in order to minimize side effects.

Mild reticulocytosis has appeared in some patients.

As with all new agents, periodic determination of liver and kidney function and complete blood counts should be performed especially during the first few months of therapy.

ADVERSE REACTIONS:

Dermatologic: Because in some instances skin rash has been followed by severe hypersensitivity reactions, it is recommended that therapy be discontinued at the first sign of rash or other adverse reaction (see WARNINGS). Skin rash, usually maculopapular, is the adverse reaction most commonly reported.

Exfoliative, urticarial and purpuric lesions, Stevens-Johnson syndrome (erythema multiforme) and toxic epidermal necrolysis have also been reported.

A few cases of alopecia with and without accompanying dermatitis have been reported.

In some patients with a rash, restarting Zyloprim (allopurinol) therapy at lower doses has been accomplished without untoward incident.

Gastrointestinal: Nausea, vomiting, diarrhea, and intermittent abdominal pain have been reported.

Vascular: There have been rare instances of a generalized hypersensitivity vasculitis or necrotizing angiitis which have led to irreversible hepatotoxicity and death.

Hematopoietic: Agranulocytosis, anemia, aplastic anemia, bone marrow depression, leukopenia, pancytopenia and thrombocytopenia have been reported in patients, most of whom received concomitant drugs with potential for causing these reactions. Zyloprim (allopurinol) has been neither implicated nor excluded as a cause of these reactions.

Neurologic: There have been a few reports of peripheral neuritis occurring while patients were taking Zyloprim. Drowsiness has also been reported in a few patients.

Ophthalmic: There have been a few reports of cataracts found in patients receiving Zyloprim. It is not known if the cataracts predated the Zyloprim therapy. "Toxic" cataracts were reported in one patient who received an anti-inflammatory agent; again, the time of onset is unknown. In a group of patients followed by Gutman and Yü for up to five years on Zyloprim therapy, no evidence of ophthalmologic effect attributable to Zyloprim was reported.

Drug Idiosyncrasy: Symptoms suggestive of drug idiosyncrasy have been reported in a few patients. It was characterized by fever, chills, leukopenia or leukocytosis, eosinophilia, arthralgias, skin rash, pruritus, nausea and vomiting.

OVERDOSAGE: Massive overdosing, or acute poisoning, by Zyloprim has not been reported.

HOW SUPPLIED: 100 mg (white) scored tablets in bottles of 100 and 1000; 300 mg (peach) scored tablets in bottles of 30, 100 and 500. Unit dose packs for strength also available.

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COMPATIBILITY



Does it influence your choice of a peripheral/cerebral vasodilator*?

- Vasodilan—compatible with coexisting diseases
- Vasodilan—compatible with concomitant therapy
- Vasodilan—compatible with your total regimen for vascular insufficiency

***Indications:** Based on a review of this drug by the National Academy of Sciences-National Research Council and/or other information, the FDA has classified the indications as follows:

Possibly Effective

1. For the relief of symptoms associated with cerebral vascular insufficiency
2. In peripheral vascular disease of arteriosclerosis obliterans, thromboangitis obliterans (Buerger's Disease) and Raynaud's disease

Final classification of the less-than-effective indications requires further investigation.

Composition: Vasodilan tablets, isoxsuprine HCl, 10 mg. and 20 mg. Vasodilan injection, isoxsuprine HCl, 5 mg., per ml.

Dosage and Administration: Oral 10 to 20 mg., three or four times daily. Intramuscular: 5 to 10 mg. (1 or 2 ml.) two or three times daily. Intramuscular administration may be used initially in severe or acute conditions.

Contraindications and Cautions: There are no known contraindications to oral use when administered in recommended doses. Should not be given immediately postpartum or in the presence of arterial bleeding.

Parenteral administration is not recommended in the presence of hypotension or tachycardia.

Intravenous administration should not be given because of increased likelihood of side effects.

Adverse Reactions: On rare occasions oral administration of the drug has been associated in time with the occurrence of hypotension, tachycardia, nausea, vomiting, dizziness, abdominal distress, and severe rash. If rash appears the drug should be discontinued.

Although available evidence suggests a temporal association of these reactions with isoxsuprine, a causal relationship can be neither confirmed nor refuted. Administration of single dose of 10 mg. intramuscularly may result in hypotension and tachycardia. These symptoms are more pronounced in higher doses. For these reasons single intramuscular doses exceeding 10 mg. are not recommended. Repeated administration of 5 to 10 mg. intramuscularly at suitable intervals may be employed.

Supplied: Tablets, 10 mg., bottles of 100, 1000, 5000 and Unit Dose; Tablets, 20 mg., bottles of 100, 500, 1000, 5000 and Unit Dose; Injection, 10 mg. per 2 ml. ampul, box of six 2 ml. ampuls.

U.S. Pat. No. 3,056,836

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(ISOXSUPRINE HCl)
20-mg tablets

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in the functional bowel/irritable bowel syndrome*

Bentyl[®]

(dicyclomine hydrochloride USP)

20 mg. capsules, 20 mg. tablets,
10 mg./5 ml. syrup, 10 mg./ml. injection

helps control abnormal motor activity
with minimal anticholinergic side effects†

demonstrated smooth muscle relaxant activity.

In this double-blind study, twenty patients having G.I. series and exhibiting
spasm were randomly selected to receive either 2 cc. of Bentyl or sodium
chloride intramuscularly. Ten minutes after the injection another radiograph
was taken . . .

. . . Bentyl produced definite relaxation in 8 of 10 patients. The sodium chloride
produced relaxation in only 3 of 10. No side effects occurred in either group of patients.



Spasm has
almost totally blocked
passage of barium
meal.



Barium meal beginning
to pass 10 minutes
after intramuscular
injection of 20 mg. Bentyl.

"The correlation of spasm relief and drug given was excellent."

This drug has been classified 'probably' effective in treating
functional bowel/irritable bowel syndrome

See Warnings, Precautions and Adverse Reactions.

See following page for prescribing information.

Reference:

King, J.C. and Starkman, N.M.: Evaluation of an antispasmodic.
Double-blind evaluation to control gastrointestinal spasms
occurring during radiographic examination. A preliminary report.
Western Med. 5:356-358, 1964

Merrell

Bentyl[®]

(dicyclomine hydrochloride USP)

Capsules, Tablets, Syrup, Injection

AVAILABLE ONLY ON PRESCRIPTION

Brief Summary

INDICATIONS

Based on a review of this drug by the National Academy of Sciences—National Research Council and/or other information, FDA has classified the following indications as "probably" effective

For the treatment of functional bowel/irritable bowel syndrome (irritable colon, spastic colon, mucous colitis) and acute enterocolitis

THESE FUNCTIONAL DISORDERS ARE OFTEN RELIEVED BY VARYING COMBINATIONS OF SEDATIVE, REASSURANCE, PHYSICIAN INTEREST, AMELIORATION OF ENVIRONMENTAL FACTORS

For use in the treatment of infant colic (syrup)

Final classification of the less-than-effective indications requires further investigation

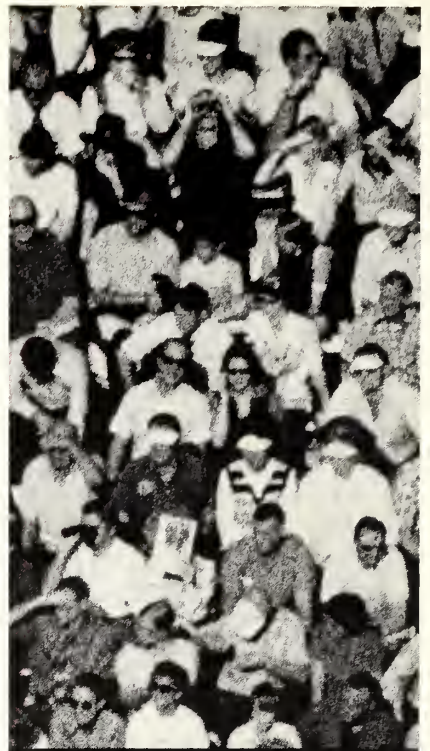
CONTRAINDICATIONS: Obstructive uropathy (for example, bladder neck obstruction due to prostatic hypertrophy), obstructive disease of the gastrointestinal tract (as in achalasia, pyloroduodenal stenosis), paralytic ileus, intestinal atony of the elderly or debilitated patient, unstable cardiovascular status in acute hemorrhage, severe ulcerative colitis, toxic megacolon complicating ulcerative colitis, myasthenia gravis. **WARNINGS:** In the presence of a high environmental temperature, heat prostration can occur with drug use (fever and heat stroke due to decreased sweating). Diarrhea may be an early symptom of incomplete intestinal obstruction, especially in patients with ileostomy or colostomy. In this instance treatment with this drug would be inappropriate and possibly harmful. Bentyl may produce drowsiness or blurred vision. In this event, the patient should be warned not to engage in activities requiring mental alertness such as operating a motor vehicle or other machinery or perform hazardous work while taking this drug. **PRECAUTIONS:** Although studies have failed to demonstrate adverse effects of dicyclomine hydrochloride in glaucoma or in patients with prostatic hypertrophy, it should be prescribed with caution in patients known to have or suspected of having glaucoma or prostatic hypertrophy. Use with caution in patients with Autonomic neuropathy. Hepatic or renal disease. Ulcerative colitis. Large doses may suppress intestinal motility to the point of producing a paralytic ileus and the use of this drug may precipitate or aggravate the serious complication of toxic megacolon. Hyperthyroidism, coronary heart disease, congestive heart failure, cardiac arrhythmias, and hypertension. Hiatal hernia associated with reflux esophagitis since anticholinergic drugs may aggravate this condition.

Do not rely on the use of the drug in the presence of complication of biliary tract disease. Investigate any tachycardia before giving anticholinergic (atropine-like) drugs since they may increase the heart rate. With overdosage, a curare-like action may occur. **ADVERSE REACTIONS:** Anticholinergics/antispasmodics produce certain effects which may be physiologic or toxic depending upon the individual patient's response. The physician must delineate these. Adverse reactions may include xerostomia, urinary hesitancy and retention, blurred vision and tachycardia, palpitations, mydriasis, cycloplegia, increased ocular tension, loss of taste, headache, nervousness, drowsiness, weakness, dizziness, insomnia, nausea, vomiting, impotence, suppression of lactation, constipation, bloated feeling, severe allergic reaction or drug idiosyncrasies including anaphylaxis, urticaria and other dermal manifestations, some degree of mental confusion and/or excitement, especially in elderly persons, and decreased sweating. With the injectable form there may be a temporary sensation of lightheadedness and occasionally local irritation. **DOSAGE AND ADMINISTRATION:** Dosage must be adjusted to individual patient's needs.

Usual Dosage: Bentyl 10 mg capsule and syrup. *Adults:* 1 or 2 capsules or teaspoonfuls syrup three or four times daily. *Children:* 1 capsule or teaspoonful syrup three or four times daily. *Infants:* ½ teaspoonful syrup three or four times daily. (May be diluted with equal volume of water.) Bentyl 20 mg. *Adults:* 1 tablet three or four times daily. Bentyl Injection. *Adults:* 2 ml (20 mg) every four to six hours intramuscularly only. NOT FOR INTRAVENOUS USE. **MANAGEMENT OF OVERDOSE:** The signs and symptoms of overdose are headache, nausea, vomiting, blurred vision, dilated pupils, hot, dry skin, dizziness, dryness of the mouth, difficulty in swallowing, CNS stimulation. Treatment should consist of gastric lavage, emetics, and activated charcoal. Barbiturates may be used either orally or intramuscularly for sedation but they should not be used if Bentyl with Phenobarbital has been ingested. If indicated, parenteral cholinergic agents such as Urecholine* (bethanechol chloride USP) should be used.

Product Information as of October, 1978

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TABLETS: 500 mg, 250 mg, and 125 mg

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An Appreciation

Henry Thomas Randall, MD

By Fiorindo A. Simeone, MD

The Professor is uncommon who, at the same time is respected, liked, and appreciated by patients whom he sees in consultation; who is acclaimed by students, both undergraduate and graduate for his teaching; and who is honored by peers and colleagues because of his excellence in surgical research and contributions to surgical education. Henry Thomas Randall, MD, MedScD, MA (ad eundem) is uncommon for he excels in all of these qualities. Born on 29 August 1914 in New York City, Doctor Randall received the AB degree from Princeton University in 1937 and the MD degree from Columbia University in 1941. His father was a successful lawyer, as was his grandfather. Tom's extraordinary clarity of argument and expression must have come from this legal legacy either as a genetic function or as an effect of the legal environment in which he was raised. He writes his papers, directives, and memoranda as if they are to withstand scrutiny in a court of law.

Tom's interest in biology and medicine may have stemmed naturally from his mother's side of the family. She herself was a graduate of the Bellevue Hospital School of Nursing. Her father was a physician, Doctor Henry King Nixon, a graduate of the King's County Medical School in Dublin, in the class of 1858, and with a medical degree also from Edinburgh in 1859.

FIORINDO A. SIMEONE, MD, *Professor Emeritus (Surgery), Brown University, Providence, Rhode Island; Surgeon-in-Chief Emeritus, The Miriam Hospital, Providence, Rhode Island.*

After six months of internship in Medicine and a junior residency in Surgery at Columbia-Presbyterian Medical Center, where he made the acquaintance of a number of prominent men in surgery, Doctor Randall was inducted into the Army of the United States, which he served with distinction for three-and-a-half years (July 1942-December 1945). He attained the rank of Lieutenant Colonel upon separation from military service.

After the War, Tom returned to Columbia and the Presbyterian Hospital and again came under the influence of several great men in Surgery. Among them, first of all was Allen O. Whipple, a great and inspiring surgical teacher, who taught by beckoning rather than by pushing; Cushman D. Haagensen, a surgical oncologist known throughout the world; John S. Lockwood, a leading surgical biologist of mid-twentieth century whose premature death in 1951 was a great loss to surgical research; and David V. Habif whose interests were and still are in surgical oncology and metabolism. It is not surprising then that Tom Randall very early became identified with research in the field of cancer; in water, electrolyte, and nitrogen metabolism; and more recently in general nutrition for the surgical patient. Doctor Randall's first five publications between 1942 and 1949 were concerned with experimental mammary carcinoma; Haagensen was a co-author. His next seven papers (1949-1952) were concerned with water and electrolyte balance, based on work done in the Surgical Metabolic Unit at Columbia-Presbyterian Medical Center, one of the very early laboratories in this country concerned with human metabolism. Lockwood and Habif were co-authors of

several of these papers. His work during this time on the metabolism of potassium in surgical patients led to the Doctor of Medical Science (Surgery) degree which Columbia University awarded him in 1950.

In 1951 Doctor Allan O. Whipple retired from the Valentine Mott Professorship of Surgery at Columbia. John S. Lockwood, then directing the Surgical Metabolic Unit, was to succeed him, and Doctor Whipple was appointed Clinical Director of the Memorial Hospital for Cancer and Allied Diseases. Doctor Randall was to succeed Doctor Lockwood as surgeon-in-charge of the Surgical Metabolic Unit. The untimely death of Doctor Lockwood changed plans. Doctor Whipple returned to Columbia as acting Director of Surgery until Doctor George Hoppin Humphrey II, was appointed Valentine Mott Professor of Surgery; and Doctor Randall, having succeeded Doctor Lockwood as surgeon-in-charge of the Surgical Metabolic Unit, was appointed to replace Doctor Whipple as Clinical Director of the Memorial Hospital for Cancer and Allied Diseases in 1951 and at the same time became a Member of the Sloan Kettering Institute. He became Associate Professor of Surgery, Cornell University Medical College in 1951, Professor of Surgery, Sloan-Kettering Division of Cornell University Medical College in 1952, and Professor of Surgery, Cornell University Medical College, 1955-67.

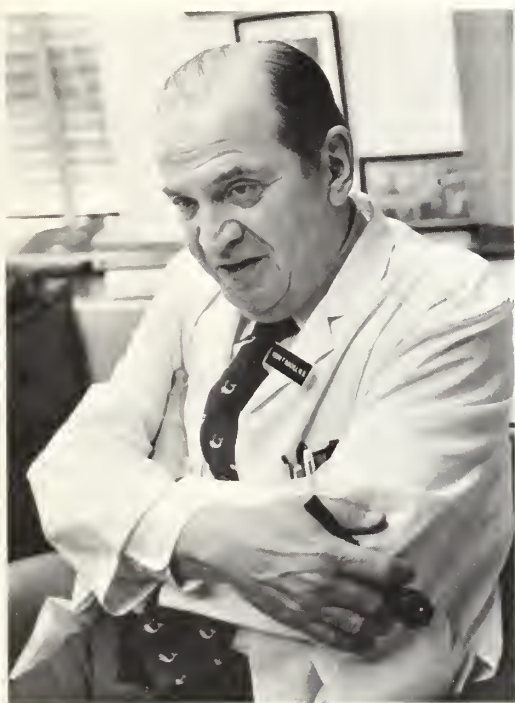
In 1967, Doctor Randall came to Providence, Rhode Island as Professor of Medical Science in the Brown University Medical Science Program and as Surgeon-in-charge, Division of Surgical Research, Department of Surgery, the Rhode Island Hospital. In 1970 he was appointed Surgeon-in-chief, Rhode Island Hospital, to succeed Doctor Lester Vargas, and in 1971 he succeeded Doctor Simeone as Chairman, Section of Surgery, Medical Science Program, Brown University. Brown University awarded him the degree of MA (ad eundem) in 1968. His years in Providence were to be very productive. Surgical research flourished at Rhode Island Hospital. Nearly fifty papers were published in association with colleagues, residents, and fellows in the 12 years. Tom's administrative ability led to significant developments in matters related to committee structure and to governance in the Section of

Surgery in Brown University.

Doctor Randall's decision to come to Providence was an easy one. Brown University's Program in Medical Science had been in operation for four years; the Program in Medicine had not yet been established. The opportunity to participate in this new program in medical education was exciting. Equally attractive was the opportunity to direct surgical research at Rhode Island Hospital. Stimulating in themselves, these attractions were enhanced by the fact that in Rhode Island, Doctor Randall had many friends who knew him well enough to call him "Tom". They knew him because of the work he had done in surgical metabolism and because of his frequent participation in graduate teaching programs throughout the country as well as in New England.

In coming to Rhode Island, Tom returned home, for geneologically he is a Rhode Islander "from way back". This branch of the Randall family in America started with Captain John Randall, who came to Newport, Rhode Island about 1645 and who, shortly after arriving, moved to the Providence Plantations. There, in what is now North Stonington in neighboring Connecticut, he bought a farm, the "Randall Farm", in 1660. His son and namesake, John Randall, built a farm house on the property in 1710, and this is still standing to-day. The family cemetery is there; and there were several generations of John Randalls.

The Randall family moved from North Stonington to Gloversville, New York in 1810. Tom's grandfather, Nelson Birney Randall, was born there in 1830 and had an interesting career. He attended nearby Hamilton College and received a Bachelor's degree and a Master's degree in English in 1858. He taught English for a while and then went to law school, and practiced law for some 12 years. Nelson Randall was the first of the Randalls in this country in the legal profession. After this experience, or because of it, he decided upon a final career in the ministry. He entered divinity school. His wife, a Thomas, daughter of Deacon Thomas, a harness maker in Jamestown, Pennsylvania supported him meanwhile by teaching. Nelson Randall obtained two degrees in Theology, including the Doctor of Divinity degree. He then



Doctor Henry Thomas Randall

preached the Gospel in many places including Vineland, New Jersey, where he established the first church in that community in 1870, and finally moved to Providence, Rhode Island, where his congregation built the Jefferson Street Baptist Church, which is still standing with its lighted cross shining brightly in the night.

In Providence the Randalls lived at 77 Orms Street, not far from the present Cannon Building of the Rhode Island Department of Health. Tom's father, Henry Thomas Randall, Sr., was born at the Orms Street residence. He went to Columbia University where he received the AB degree in 1900 and from the Law School the LLB degree in 1903. In 1908 he married Helen Maude Nixon, a graduate of the Bellevue Hospital School of Nursing. Tom, Henry Thomas Randall, Jr., was born on August 29, 1941 in New York City, where Mr. Randall, Sr., was practicing Law. Tom's parentage was steeped in education, religion, law, and medicine. A review of this genealogy makes it clear that Tom can be considered a Rhode Islander "from way back".

In 1940 Tom Randall married Louise Elinor Harmon. Their three children, Martha Emily, Deborah Ann, and Henry Thomas III, have been their pride and joy. Interestingly, despite

their medical heritage, none of them developed enough interest in medicine to choose it as a career. However, their younger daughter, Deborah Ann, has followed in the footsteps of her grandfather. She decided upon a career in law and graduated from Columbia University Law School in 1977, 74 years after her grandfather received the law degree from the same school.

Doctor Randall is a member of most of our surgical societies and has been president of many. He has participated in the activities of voluntary agencies such as the American Cancer Society. He was president and was made life member of the New York City Division of the American Cancer Society in 1967. He now is president of the American Cancer Society, Rhode Island Affiliate, Inc. (1978-1979). He is a member of the Cancer Control Board of Rhode Island, and plays a very important part in the activities of the Rhode Island Community-Based Cancer Control Program. Within the Rhode Island Community, Mrs. Randall and Tom contribute a great deal of time and effort to the activities of the United Way of Southeastern New England. In the brief period of a decade, they have won the affection of their fellow Rhode Islanders.

Doctor Randall has received many honors, the most recent being the Distinguished Service Award, the highest honor which the American College of Surgeons (1977) bestows upon one of its Fellows. The citation with this award reads as follows: "The Board of Regents of the American College of Surgeons proudly presents its Distinguished Service Award for 1977 to Henry Thomas Randall, MD, FACS, in recognition of his achievements in research, especially in human metabolism, in surgical physiology and in improved care for the patient with cancer, together with significant contributions to administration in many medical institutions and organizations; and

"In appreciation of his unstinting contributions to the educational activities of the American College of Surgeons over a quarter century, as program participant, as Chairman of the Editorial Committee for the initial Manual on Pre-and Postoperative Care, as a member of the Committee on Continuing Education and as Chairman of the Committee

on Pre- and Postoperative Care.

"October 20, 1977".

Henry Thomas Randall has been formally honored by his students and peers for his many and great contributions to surgery. But the writer of this brief note about Doctor Randall has seen Tom happiest and at his best in small group discussions where he can hold onto his pipe and can give deep thought to statements on surgical biology being made by a colleague, sometimes nodding overt agreement; sometimes cocking his head in moderate disbelief; sometimes voicing outright incredulity. He does this best at meetings of the Surgical Biology Club, an organization too maverick for a senior surgeon to list among the stately societies to which he belongs. Tom was a founder of this Club in the year 1949. This is an extraordinary organization whose motto is "Conviviality without fear of Plagiarism". Its purpose is to permit a free exchange of ideas among surgeons actively engaged in surgical research. There are no officers. For the Club's first few years, Tom did the work ordinarily done by a secretary and treasurer, but there were no dues. These have been introduced more recently with the increase in cost of postage stamps. Now thirty years old, the Club remains very vigorous. It meets once a year, on the Sunday directly preceding the meeting of the American College of Surgeons. Membership is strictly limited; attendance is limited to members only; twenty to twenty-five usually attend the day's meeting. A dinner meeting is held in the evening, a rather happy informal meeting where guests outnumber members by six to one. The after-dinner speaker talks on anything but science. Tom enjoys these meetings. He enjoys bringing his residents to the evening dinner, where they can meet the "people whose publications they read" and thereafter can better judge their writings.

At the end of this academic year, June 1979, Tom is resigning his duties of Surgeon-in-chief at Rhode Island Hospital, and Professor of Medical Science and Chairman of the Section on Surgery of the Program in Medicine, Brown University. Relieved of the countless duties which these appointments entail, he will be able to channel his remarkable talents characterized by extraordinary clarity of

thought and of expression into activities which have evaded him because of his duties. His friends venture to hope for new ideas and challenges on Medical Education and on Graduate Surgical Education. They know he is not going to retire.

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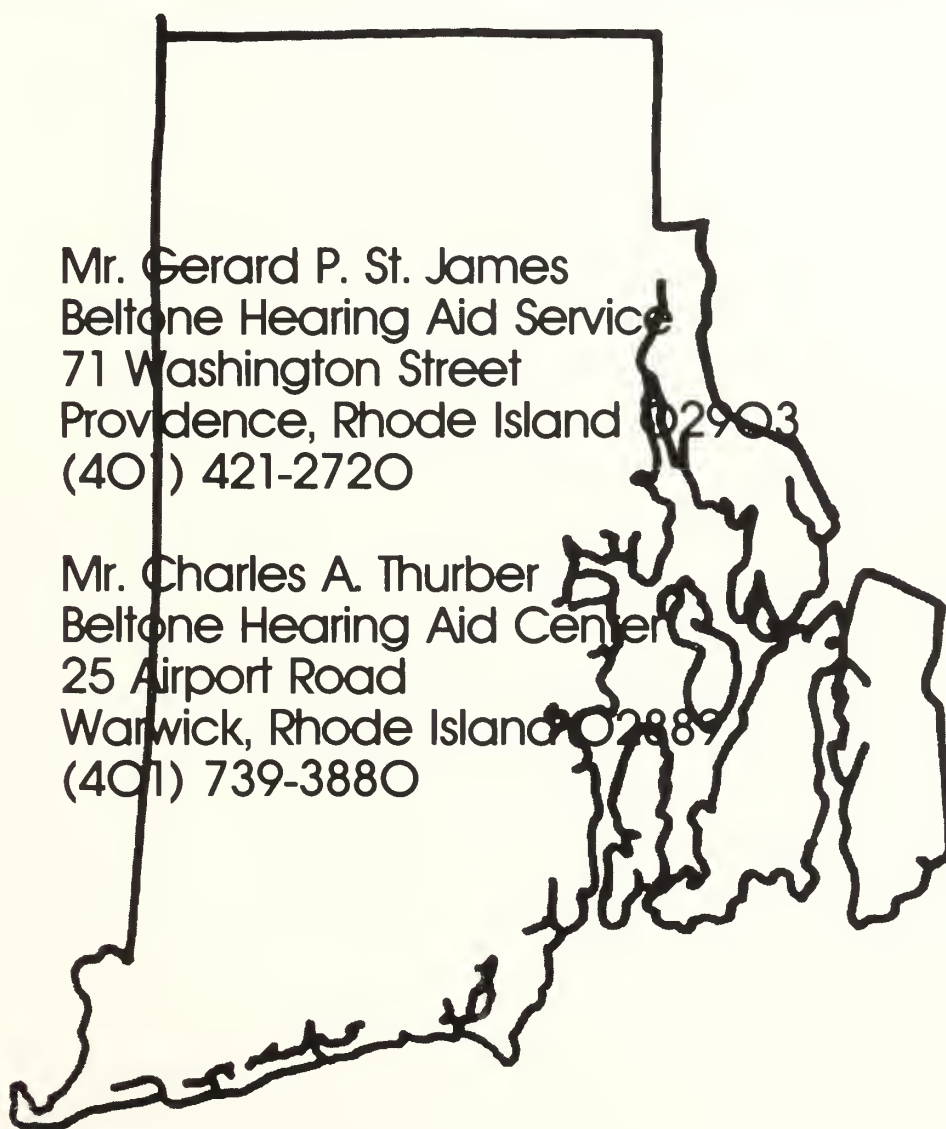
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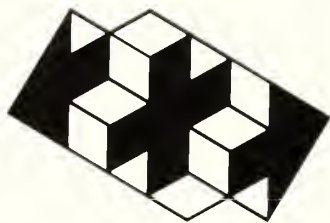
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The Physician as Author

By William Braden, MD

It should perhaps not seem remarkable that some men have been physicians and at the same time recognized as men of letters. After all, the ideal physician would not only be a scholar, but a wise man, capable of bringing a humane perspective to his work. Many physicians enjoy the exploration or creation of literature in private. My comments here are necessarily limited to a few who achieved public recognition as authors.

It seems that in earlier times men were more often successful in more than one field. We read of the evangelist St. Luke not only that he was "our dear physician" (Colossians 4:14) but that he was a painter, said to have painted a portrait of the Virgin Mary. The novelist and editor Francois Rabelais not only practiced medicine, but was an ordained clergyman, had a wide knowledge of classical literature, and may even have studied law. But, as the phrase "a Renaissance man" suggests, we think of such multiple excellence as belonging to the past.

The physician authors of today seem to write about medicine. Their public appears keenly interested in the topic, as shown by the success of such novels as Michael Crichton's *The Terminal Man* and Robin Cook's *Coma*. These suspense stories had a special appeal because their physician authors had included a good deal of information about contemporary

medicine. The popularity of medicine as a topic is suggested also by the many soap operas and other television programs that use medical settings and characters.

There is another reason why the main character in a television series is so often a doctor. In the jargon of the industry, a doctor, like a policeman, has something called "franchise." That is, doctors and policemen may convincingly be portrayed as coming in contact with people in different situations week after week in a way that is unlikely for, say, a banker or an engineer.

I have looked at autobiographies of some physician authors from the recent past. They too agree that the doctor has "franchise," but they note something else as well: that his contact with people occurs at very special times of crisis and pain — when the frailty and vulnerability of them as human beings is most in evidence — and their strength and spirit as well.

Here is A. J. Cronin:

"But when, as a qualified doctor, I went out into the world, . . . and, in the practice of my profession, saw life at first hand, observed the courage and good humour of my fellow creatures struggling under great hardships, for the first time I began to penetrate into the realm of the spirit. As I assisted at the miracle of birth, sat with the dying in the still hours of night, heard the faint inexorable beating of the dark wings of death, my outlook became less self-assured. Through the slow pangs of experience, new values were made apparent to me . . ."

Somerset Maugham, describing his service on accident duty:

"For here I was in contact with what I most wanted, life in the raw. In those three years I must have witnessed pretty well every emotion of which man is capable. It appealed to my dramatic instinct. It excited the novelist

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WILLIAM BRADEN, MD, *Assistant Professor of Psychiatry, Brown University, Providence, Rhode Island.*

in me. Even now that forty years have passed I can remember certain people so exactly that I could draw a picture of them . . . I saw how men died. I saw how they bore pain. I saw what hope looked like, fear, and relief; I saw the dark lines that despair drew on a face; I saw courage and steadfastness. I saw faith shine in the eyes of those who trusted in what I could only think was an illusion, and I saw the gallantry that made a man greet the prognosis of death with an ironic joke because he was too proud to let those about him see the terror of his soul.

"All of this was a valuable experience to me. I do not know a better training for a writer than to spend some years in the medical profession. I suppose that you can learn a good deal about human nature in a solicitor's office; but there on the whole you have to deal with men in full control of themselves . . . But the doctor, especially the hospital doctor, sees (human nature) bare."²

William Carlos Williams:

"And my 'medicine' was the thing that gained me entrance to . . . (the) secret gardens of the self. It lay there, another world, in the self. I was permitted by my medical badge to follow the poor, defeated body into those gulfs and grottos. And the astonishing thing is that at such times and in such places—foul as they may be with the stinking ischio-rectal abscesses of our comings and goings—just there, the thing, in all its greatest beauty, may for a moment be freed to fly for a moment guiltily about the room. In illness, in the permission I as a physician have had to be present at deaths and births, at the tormented battles between daughter and diabolic mother, shattered by a gone brain—just there—for a split second—from one side or the other, it has fluttered before me for a moment."³

Despite these advantages, I think it fair to say that most physicians have not been active in producing literature. Sir Arthur Conan Doyle, himself a physician, has an explanation:

"Medical men are, as a class, very much too busy to take stock of singular situations or dramatic events . . . A life spent in watching over deathbeds—or over birth-beds which are infinitely more trying—takes something from a man's sense of proportion, as constant strong waters might corrupt his palate. The over-stimulated nerve ceases to respond. Ask the surgeon for his best experiences and he may reply that he has seen little that is remarkable, or break away into the technical . . ."⁴

Too busy, and perhaps too jaded, Conan Doyle suggests. Parenthetically, I can say from my own experience that when I am most actively working with psychiatric patients, my interest in reading novels practically disappears. One reason for this might be the resemblance of so many contemporary novels to case studies. Reading about the self-cen-

tered anguish of the protagonists begins to seem rather a "busman's holiday."

But Conan Doyle also raises the question, whether the man of action is indeed *other* than the man of contemplation and vision who writes novels. I was surprised to see in the biographies I looked at a relationship between illness and a literary career. This would ordinarily not be a direct relationship, except in a special case such as that of Dostoevsky, whose mystical and prophetic gifts depended in part on the epileptic seizures he valued so highly. I suspect a more typical pattern is that illness enforces a monastic retreat from the otherwise pressing demands of life. A. J. Cronin, for example, developed a duodenal ulcer, and was ordered to take six months' rest. Selling a busy practice, he moved to the country to write a successful first novel.

William Carlos Williams was once asked by an interviewer whether he was a "born poet" who had always wanted to write:

"No, no. It began with a heart attack. I was sixteen or seventeen. There was a race. Mismanaged. I ran the eight laps. Someone called, 'You've got another lap to run.' I ran it. I was sick, vomiting sick, and my head hurt. When I got home my family called old Doc Calhoun. He said, 'Heart murmur.' Oh, I don't know, I may have had rheumatic fever without knowing it. Anyhow, it meant a complete change in my life. I had lived for sports like any other kid. They let me go to school. But no more baseball. No more running. I didn't mind the running too much . . . there was a boy up the street I never could beat. But the rest. Not being with the others after school. I was forced back onto myself. I had to think about myself, look into myself. And I began to read."⁵

Thomas Mann, discussing his novel *The Magic Mountain*,⁶ describes how sickness and death are treated in it as instruments of enlightenment, heightening and enhancing the hero's spiritual and esthetic perceptions. In an interesting parallel, Walker Percy contracted tuberculosis as a result of performing autopsies while an intern. His experience during the next few years, confined to bed and sanatorium, provided the groundwork for his later novels:

"I was in bed so much, alone so much, that I had nothing to do but read or think. I began to question everything I had once believed."⁷

One problem which all doctors must con-

front, but few, it seems, ever discuss, is the "problem of evil." This philosophical term refers to the difficulty of reconciling the concept of an omnipotent God with the existence of sin and suffering. Even in a godless age, the problem remains, not as an intellectual, but as an emotional one. Whether we believe in technology, democracy, or merely our own good intentions, the spectacle of undeserved suffering—such as a child with a fatal illness—reminds us all of our limitations, and perhaps reminds the physician most frequently and forcefully. One possible response to this might be to devote still greater energy to medicine. Another response might be to transform some of the anguish into artistic or literary creations.

Some physician authors have described their own responses to the problem of evil. Cronin, who embraced religion in his later life, suggests that our lives

"are not meant to be a joy ride but a time . . . of preparation, . . . of testing and endurance, when we stand poised, so to speak, upon the threshold of the hereafter. We are indeed destined to suffer, and the more we try to insulate ourselves against suffering the more we shall suffer."¹

Maugham discusses the problem of evil at some length, drawing on philosophical sources. Finally, he concludes:

"When now and then I have come across real goodness I have found reverence rise naturally in my heart . . . When I was a small boy and unhappy I used to dream night after night that my life at school was all a dream and that I should wake to find myself at home again with my mother. Her death was a wound that fifty years have not entirely healed. I have long ceased to have that dream; but I have never quite lost the sense that my living life was a mirage . . . strangely lacking in reality . . . In default of anything better it has seemed to me sometimes that I might pretend to myself that the goodness . . . in many of those I have encountered on my way had reality. It may be that in goodness we may see, not a reason for life nor an explanation for it, but an extenuation. In this indifferent universe, with its inevitable evils that surround us from the cradle to the grave, it may serve, not as a challenge or a reply, but as an affirmation of our own independence."²

Here is William Carlos Williams, in a letter to Marianne Moore, who had remarked on the "inner security" of his poems:

"The inner security . . . is something which occurred once when I was about twenty, a sudden resignation to existence, a despair—if you wish to call it that, but a

despair which made everything a unit and at the same time a part of myself. I suppose it might be called a sort of nameless religious experience. I resigned, I gave up. I decided there was nothing else in life for me but to work. It is the explanation for the calumny that is heaped on my head by women and men alike once they know me long enough. I won't follow causes. I can't. The reason is that it seems so much more important to me that I am. Where shall one go? What shall one do? Things have no names for me and places have no significance. As a reward for this anonymity I feel as much a part of things as trees and stones. Heaven seems frankly impossible. I am damned as I succeed. I have no particular hope save to repair, to rescue, to complete . . ."³

I have been discussing some of the reasons a physician might turn to literary pursuits, and his need to achieve some personal acceptance of a world full of suffering. The actual literary products of physician authors are as diverse as these remarkable men themselves. Rather than attempt to describe them, I would prefer to share with you just one of Doctor Williams' poems.

The Last Words of My English Grandmother

There were some dirty plates
and a glass of milk
beside her on a small table
near the rank, disheveled bed —
Wrinkled and nearly blind
she lay and snored
rousing with anger in her tones
to cry for food,
Gimme something to eat —
They're starving me —
I'm all right I won't go
to the hospital. No, no, no
Give me something to eat
Let me take you
to the hospital, I said
and after you are well
you can do as you please.
She smiled, Yes
you do what you please first
then I can do what I please —
Oh, oh, oh! she cried
as the ambulance men lifted
her to the stretcher —
Is this what you call
making me comfortable?
By now her mind was clear —
Oh you think you're smart
you young people,
she said, but I'll tell you
you don't know anything.
Then we started.
On the way
we passed a long row

of elms. She looked at them
awhile out of
the ambulance window and said,
What are all those
fuzzy looking things out there?
Trees? Well, I'm tired
of them and rolled her head away.⁹

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Brief Summary

INDICATION Tenuate and Tenuate Dospan are indicated in the management of exogenous obesity as a short-term adjunct (a few weeks) in a regimen of weight reduction based on caloric restriction. The limited usefulness of agents of this class should be measured against possible risk factors inherent in their use such as those described below.

CONTRAINDICATIONS Advanced arteriosclerosis, hyperthyroidism, known hypersensitivity, or idiosyncrasy to the sympathomimetic amines, glaucoma. Agitated states. Patients with a history of drug abuse. During or within 14 days following the administration of monoamine oxidase inhibitors, (hypertensive crises may result).

WARNINGS If tolerance develops, the recommended dose should not be exceeded in an attempt to increase the effect, rather, the drug should be discontinued. Tenuate may impair the ability of the patient to engage in potentially hazardous activities such as operating machinery or driving a motor vehicle, the patient should therefore be cautioned accordingly.

Drug Dependence Tenuate has some chemical and pharmacologic similarities to the amphetamines and other related stimulant drugs that have been extensively abused. There have been reports of subjects becoming psychologically dependent on diethylpropion. The possibility of abuse should be kept in mind when evaluating the desirability of including a drug as part of a weight reduction program. Abuse of amphetamines and related drugs may be associated with varying degrees of psychological dependence and social dysfunction which, in the case of certain drugs, may be severe. There are reports of patients who have increased the dosage to many times that recommended. Abrupt cessation following prolonged high dosage administration results in extreme fatigue and mental depression, changes are also noted on the sleep EEG. Manifestations of chronic intoxication with anorectic drugs include severe dermatoses, marked insomnia, irritability, hyperactivity, and personality changes. The most severe manifestation of chronic intoxications is psychosis, often clinically indistinguishable from schizophrenia.

Use in Pregnancy Although rat and human reproductive studies have not indicated adverse effects, the use of Tenuate by women who are pregnant or may become pregnant requires that the potential benefits be weighed against the potential risks. **Use in Children** Tenuate is not recommended for use in children under 12 years of age.

PRECAUTIONS Caution is to be exercised in prescribing Tenuate for patients with hypertension or with symptomatic cardiovascular disease, including arrhythmias. Tenuate should not be administered to patients with severe hypertension. Insulin requirements in diabetes mellitus may be altered in association with the use of Tenuate and the concomitant dietary regimen. Tenuate may decrease the hypotensive effect of guanethidine. The least amount feasible should be prescribed or dispensed at one time in order to minimize the possibility of overdosage. Reports suggest that Tenuate may increase convulsions in some epileptics. Therefore, epileptics receiving Tenuate should be carefully monitored. Titration of dose or discontinuance of Tenuate may be necessary.

ADVERSE REACTIONS: *Cardiovascular* Palpitation, tachycardia, elevation of blood pressure, precordial pain, arrhythmia. One published report described T-wave changes in the ECG of a healthy young male after ingestion of diethylpropion hydrochloride. *Central Nervous System* Overstimulation, nervousness, restlessness, dizziness, jitteriness, insomnia, anxiety, euphoria, depression, dysphoria, tremor, dyskinesia, mydriasis, drowsiness, malaise, headache, rarely psychotic episodes at recommended doses. In a few epileptics an increase in convulsive episodes has been reported. *Gastrointestinal* Dryness of the mouth, unpleasant taste, nausea, vomiting, abdominal discomfort, diarrhea, constipation, other gastrointestinal disturbances. *Allergic* Urticaria, rash, ecchymosis, erythema. *Endocrine* Impotence, changes in libido, gynecomastia, menstrual upset. *Hematopoietic System* Bone marrow depression, agranulocytosis, leukopenia. *Miscellaneous* A variety of miscellaneous adverse reactions has been reported by physicians. These include complaints such as dyspnea, hair loss, muscle pain, dysuria, increased sweating, and polyuria.

DOSAGE AND ADMINISTRATION: Tenuate (diethylpropion hydrochloride) One 25 mg. tablet three times daily, one hour before meals, and in mid evening if desired to overcome night hunger. Tenuate Dospan (diethylpropion hydrochloride) controlled-release. One 75 mg tablet daily, swallowed whole, in mid morning. Tenuate is not recommended for use in children under 12 years of age.

OVERDOSAGE: Manifestations of acute overdosage include restlessness, tremor, hyperreflexia, rapid respiration, confusion, assaultiveness, hallucinations, panic states. Fatigue and depression usually follow the central stimulation. Cardiovascular effects include arrhythmias, hypertension or hypotension and circulatory collapse. Gastrointestinal symptoms include nausea, vomiting, diarrhea, and abdominal cramps. Overdose of pharmacologically similar compounds has resulted in fatal poisoning, usually terminating in convulsions and coma. Management of acute Tenuate intoxication is largely symptomatic and includes lavage and sedation with a barbiturate. Experience with hemodialysis or peritoneal dialysis is inadequate to permit recommendation in this regard. Intravenous phenitoin (Regitine®) has been suggested on pharmacologic grounds for possible acute, severe hypertension, if this complicates Tenuate overdosage.

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Before prescribing, see complete prescribing information in SK&F Co. literature or PDR. A brief summary follows:

* WARNING

This drug is not indicated for initial therapy of edema or hypertension. Edema or hypertension requires therapy titrated to the individual. If this combination represents the dosage so determined, its use may be more convenient in patient management. Treatment of hypertension and edema is not static, but must be reevaluated as conditions in each patient warrant.

Contraindications: Further use in anuria, progressive renal or hepatic dysfunction, hyperkalemia. Pre-existing elevated serum potassium. Hypersensitivity to either component or other sulfonamide-derived drugs.

Warnings: Do not use potassium supplements, dietary or otherwise, unless hypokalemia develops or dietary intake of potassium is markedly impaired. If supplementary potassium is needed, potassium tablets should not be used. Hyperkalemia can occur, and has been associated with cardiac irregularities. It is more likely in the severely ill, with urine volume less than one liter/day, the elderly and diabetics with suspected or confirmed renal insufficiency. Periodically, serum K⁺ levels should be determined. If hyperkalemia develops, substitute a thiazide alone, restrict K⁺ intake. **Associated widened QRS complex or arrhythmia requires prompt additional therapy.** Thiazides cross the placental barrier and appear in cord blood. Use in pregnancy requires weighing anticipated benefits against possible hazards, including fetal or neonatal jaundice, thrombocytopenia, other adverse reactions seen in adults. Thiazides appear and triamterene may appear in breast milk. If their use is essential, the patient should stop nursing. Adequate information on use in children is not available.

Precautions: Do periodic serum electrolyte determinations (particularly important in patients vomiting excessively or receiving parenteral fluids). Periodic BUN and serum creatinine determinations should be made, especially in the elderly, diabetics or those with suspected or confirmed renal insufficiency. Watch for signs of impending coma in severe liver disease. If spironolactone is used concomitantly, determine serum K⁺ frequently; both can cause K⁺ retention and elevated serum K⁺. Two deaths have been reported with such concomitant therapy (in one, recommended dosage was exceeded, in the other serum electrolytes were not properly monitored). Observe regularly for possible blood dyscrasias, liver damage, other idiosyncratic reactions. Blood dyscrasias have been reported in patients receiving triamterene, and leukopenia, thrombocytopenia, agranulocytosis, and aplastic anemia have been reported with thiazides. Triamterene is a weak folic acid antagonist. Do periodic blood studies in cirrhotics with splenomegaly. Anti-hypertensive effect may be enhanced in post-sympathectomy patients. Use cautiously in surgical patients. The following may occur: transient elevated BUN or creatinine or both, hyperglycemia and glycosuria (diabetic insulin requirements may be altered), hyperuricemia and gout, digitalis intoxication (in hypokalemia), decreasing alkali reserve with possible metabolic acidosis. 'Dyazide' interferes with fluorescent measurement of quinidine.

Adverse Reactions: Muscle cramps, weakness, dizziness, headache, dry mouth; anaphylaxis, rash, urticaria, photosensitivity, purpura, other dermatological conditions; nausea and vomiting, diarrhea, constipation, other gastrointestinal disturbances. Necrotizing vasculitis, paresthesias, icterus, pancreatitis, xanthopsia and, rarely, allergic pneumonitis have occurred with thiazides alone.

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Medicine and the Waning of Professional Sovereignty

By Paul Starr

Images of the future are usually caricatures of the present. They inflate some recognizable features of contemporary life to extravagant proportions, and out of fear or hope respond to every vagary of historical experience, as if it were a sign of destiny. In America, during the past decade, the future has changed shape altogether. Not long ago Americans generally believed that their society was in an irreversible ascendancy toward greater affluence; then they abruptly rediscovered the problem of scarcity and the insecurities of power and came to imagine themselves at the beginning of a long historical decline. Intellectuals, as much as others, have shared in this reversal of outlook; the more radical generally identify the collapse around the corner as economic and ecological, while the more conservative lament the downfall of civility, self-restraint, and the democratic idea. All this dark pessimism has arisen, remarkably enough, at a time when there has been no commensurate downturn in American society. Despite the commotion of aborted revolts and stalled reactions, politics and culture in America—status relations excepted¹—are not greatly different from what they were ten or fifteen years ago. Changes in the conditions of material life and in the structure of social

institutions have been much slower and less extreme than the oscillations in mood and outlook.

Like the larger society, medicine has suffered a stunning loss of confidence. It used to be the habit on public occasions to celebrate the miracles of medical science and anticipate that new research would bring still more triumphs over dread disease. Then in the last decade the economic and moral problems of medicine displaced scientific progress at the center of public attention. Enormous increases in cost have come to seem ever more certain; corresponding improvements in health ever more doubtful. In intellectual and political circles, a new agnosticism has descended on medical care, as its critics, conservative as well as radical, observe that compared to the influence of environment and behavior, medicine can do little to make people healthy. As the 1960s began, the premise of social policy, as well as popular understanding, was that America needed and would benefit from more medical care—more hospitals, more physicians and other personnel, and more elaborate medical technology. Most of the major federal programs were then devoted to augmenting the country's medical resources. More recently the prevailing assumptions have reversed, as those who shape policy seek ways to reduce the number of hospital beds, slow down the introduction of medical technology, and cut off a potential glut of physicians projected for the 1980s. In a short time, we seem to have gone from too little medical care to too much, from stubborn shortages to irrepressible excess, without ever having passed through happy sufficiency. (In fact, we have long had both shortages and surpluses in medicine—in different places.)

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PAUL STARR, *Junior Fellow, Society of Fellows, Harvard University; author of The Discarded Army: Veterans after Vietnam, published in 1973.*

Even some notable medical advances, which would have inspired nothing but grateful wonder twenty years ago, now seem primarily to occasion dour estimates of future expense. Nor do we seem as happy anymore to have the powers that medicine yields. Medicine often raises previously uncontrolled aspects of life to the level of social choice, and instead of giving satisfaction, endows us with some life-and-death powers we might prefer to do without. A genius for technical sophistication may someday, with luck, make it virtually impossible for patients in hospitals to expire, except by someone's (perhaps their own) conscious choice. Professionals already must make more of the "decisions for death," as the pediatrician Raymond Duff calls them, that nature alone once made. So rather than a liberating and life-giving force, medicine now appears to many as a financial onus, to some as a moral burden, and to still others as perhaps the archetypal modern form of domination—of man over nature, and of men over each other.

Most medical care, of course, proceeds unaffected by these shifting perceptions. As in the society, the changes of mood and opinion can be violent while the pace of institutional change is glacial. American medicine today contains a paradox. Outwardly, its institutions, prosperous and authoritative, show imposing strength, yet their social and economic structure is fundamentally unstable, and long-standing assumptions that have governed their operation are in danger of breaking down. A fundamental intellectual reassessment of medicine is taking place; a sense of impending change fills the air. Between 1960 and 1976, the nation's expenditures on medical care rose from \$25.9 to \$139.3 billion, or from 5.2 to 8.6 per cent of the gross national product (GNP). Recent estimates put the comparable 1981 figures at \$264.4 billion, or 10.2 per cent of GNP.² Accelerated growth of this kind, relative to total national wealth, cannot be indefinitely sustained. Controlling costs will mean redrawing the "contract," if you will, between the medical profession and the society, with new terms much less favorable to the doctors. This is already beginning to happen. A variety of forces—political, economic, cultural—are converging to limit the authority of practicing physicians and the autonomy the profession

has enjoyed from the discipline of the market and the state. Haltingly, medicine is approaching the end of an era whose signal characteristic has been the sovereignty of the private physician.

I

It is simply not true, as myth might have it, that physicians have always occupied positions of honor, comfort, and authority ever since the first medicine man had the good fortune to recite an incantation immediately before his patient's spontaneous recovery. M I Finley notes that in Rome during the Empire physicians were primarily "slaves, freedmen and foreigners" and that medicine was considered a very low-grade occupation. Physicians in eighteenth-century England, while ranking above the lowlier surgeons and apothecaries, stood only at the margin of the gentry, struggling for the patronage of the upper classes in the hope of acquiring enough wealth to buy an estate and a title. In nineteenth and early twentieth-century France, as Theodore Zeldin points out, doctors were mostly impecunious, and the successful among them, conscious that medicine was an inadequate claim to status, pursued an ideal of general culture rather than mere professional accomplishment. In America before the twentieth century, medicine long occupied an inferior place among professions. "In all of our American colleges," a professional journal commented bitterly in 1869, "medicine has ever been and is now, the most despised of all the professions which liberally-educated men are expected to enter." Although a few eminent doctors made handsome fortunes, the majority before 1900 could barely scrape together a respectable living. Even today in the Soviet Union, the average earnings of physicians are less than three-quarters of the average industrial wage; coincidentally, 70 per cent of the doctors are women.³

America today could hardly offer a more striking contrast. Physicians here now earn the

highest average income of any occupation. During this century, especially for the last generation, medicine has embodied the professional ideal in American culture. It has commanded faith and ambition, influence and resources. As one of the last enclaves of the self-employed, the medical profession has until recently held undisputed control over its own work. And as the only emissaries from the distant world of science that most people ordinarily encounter, doctors hold a singular place in popular belief. In nation-wide opinion polls, conducted in 1947 and 1963, "physician" ranked as the second most desired job, next to Justice of the U S Supreme Court and ahead of Congressman, member of the President's cabinet, lawyer, priest, architect, and every other occupational category.

The position of the medical profession in America rests, I would argue, on its relation to three institutional spheres: the cultural order, the market, and the state. The cultural authority of medicine—that is, the profession's ability to define and interpret the nature of reality and human experience—has expanded as medicine has embraced more aspects of life, and grown more firm as people have lost confidence in the adequacy of their own senses and understanding and in their ability to treat their own problems. The profession's authority also underlies the economic operation of the medical system, as most decisions turn on the judgment—the authorization—of physicians. What the doctor defines as medically warranted for the treatment of patients, not only the family but the society now feels obliged to provide. Insurance companies and government programs will pay for medical services, but only as long as a physician authorizes them. The habit has been not to question professional judgments. One of the many anomalies of medical economics is that "demand," normally set by consumers, is in medicine largely determined by the producer, the physician, who decides whether hospitalization, prescriptions, tests, surgery, referrals, and further visits are needed. Partly because the supply of services, as well as the demand, has been constrained by the producers—by means of licensing boards, limits on medical education, and concerted resistance against institutional alternatives to fee-for-service practice—the profession has been in a position to exert substantial "market

power." Rather than being ruled by market forces, American physicians have been able to control them. Roughly since the turn of the century, they have been free of the intense competitiveness that formerly plagued medical practice. "Consumers," ill organized, have achieved almost no countervailing power.

The third bulwark of the profession's position, besides cultural authority and market power, has been its capacity to guide the policies of the state in directions favorable to its interests. In the late nineteenth century, when it was seeking protective licensing laws, the medical profession successfully called for interventionist policies; once having achieved its objectives, it shifted to a principled defense of free enterprise, successfully opposing health insurance as "socialized medicine."

It is symptomatic of the declining political influence of the profession that its old ideological appeals no longer work today. The philippics against socialized medicine have all but disappeared; now rather than debating the principle of health insurance, people debate the mechanics. The American Medical Association (AMA) is a shadow of its former self; since Medicare, it has been unable to stop a long line of federal legislation it considers inimical to physicians' interests. The profession has even lost control of the vocabulary of policy-making. Instead of "compulsory" health insurance, people now speak of "national" health insurance, the compulsory aspects having totally faded from public discussion.

But the AMA's loss of political influence is itself a reflection of the changing structure of the market. The enormous growth of the medical industry over the past two decades has thrown up interests at least as powerful as private physicians. Hospitals, medical school centers, and the insurance industry now count heavily in the medical system; and even though doctors make most of the vital decisions in medical schools and hospitals, and the hospitals virtually control Blue Cross, the interests of the corporate organizations are not the same as those of the profession. To solve their own financial difficulties, the medical schools and hospitals have often invited federal spending, instead of resisting it. The principle of public financing was not imposed on them against their will; it was established partly by their own efforts. But the more the state

becomes involved in financing health services, the more pressure it feels to rationalize the system to reduce costs. And so, by an almost irresistible logic, the development of the medical market generates the forces that threaten to transform it.

But even though the medical profession has been losing its domination of the market and government policy, its cultural authority remains fundamentally secure. However irritated Americans may be with their doctors, they are not likely to dispense with them in their need for relief from uncertainty and pain. Yet as the rise in malpractice litigation has made apparent, the public harbors a great deal of unorganized hostility toward the profession. People may even be more generally skeptical of medical authority, although this is hard to confirm. According to a Harris poll, the proportion of the public having a "great deal of confidence" in medicine declined to 42 per cent in July 1976, down from 73 per cent in 1966.⁴ More significantly, the cultural authority of medicine no longer appears to be expanding. In treating compulsions, like drug dependence and alcoholism, or in rehabilitating criminals, the success of medicine has not been notorious. There seems to be a backlash in these areas against the "medical model," encouraged by a desire to reassert the moral character of behavior. And in the middle classes, there is a widely felt urge to "demedicalize" certain aspects of life, on the grounds that medical control has brought with it a cold impersonality. Childbirth, in particular, is being removed from purely medical supervision; there is a parallel urge to make dying more humane. But these are movements that medicine can absorb; they may even help relieve physicians of some difficult responsibilities.

The more serious problems for the profession are those of political economy. If doctors continue to be culturally authoritative, but lose some of their economic and political power, will they be able to retain their high status and income? There is no certainty that they will. The medical profession owes its special position in America to particular historical developments. Its strong position, in relation to the culture, the market, and the state, goes back only to the beginning of this century. And the professional prerogatives

established then are now in the process of breaking down, as they did once before.

II

Four critical periods stand out in the development of medical care in America.

The first, beginning in the late colonial era around 1760, saw the formation of the first medical institutions. Out of previously isolated doctors, many of whom pursued other occupations while practicing medicine, a profession took shape as a distinct corporate body, and sought to bring to America the institutional patterns in professional licensing, training, and organization then prevailing in England. The first licensure act calling for the certification of physicians was passed in New York City in 1760, the first medical school was established in Philadelphia in 1765, and the first provincial medical society was organized in New Jersey in 1766. This initial movement toward professionalization was the work of a small medical elite in the larger cities, but the institutions it created gave an emerging profession the capacity to reproduce and enlarge itself, and to reduce its dependence on Europe.

Then in the second quarter of the nineteenth century, during the Jacksonian era, as traditional sources of authority and power were challenged throughout American society, the early efforts to build a strong and exclusive profession broke down. In the 1830s and 1840s, state legislatures repealed the medical licensing laws they had passed in the early years of the republic. While medical schools proliferated, especially in the western states, their standards declined, as nearly all of them became proprietary operations run by their professors for their own profit. The American Medical Association was formed in 1847 in response to the multiplication of medical colleges and the decline of licensing, but for its first half century it remained weak and ineffective, preoccupied with internal squabbles.

Medical practitioners split into warring sects — homeopaths, eclectics, hydropaths, and regulars — each denouncing the others' modes of treatment as incompetent and murderous. The profession lost its coherence and its ability to command public deference and respect. Two complementary developments aggravated its situation. A general assault on "privileged monopolies" made the medical profession one of its targets, in the conviction that the arcane knowledge of doctors, like that of lawyers and priests, was no more than mystification. At the same time, within medicine, prominent physicians raised severe doubts as to the validity of known therapies; a current of professional thought maintained that doctors had hardly any remedies of value. This "therapeutic nihilism" within medicine (which was, in fact, entirely justified) echoed the radical doubts abroad in the society, and helped deprive the profession of the authority of self-confidence.

The third critical period, beginning around 1870 and coming to full flower between 1890 and 1920, saw the rise of medicine to its modern status and authority. The achievements of the Progressive era were threefold. Aided by the genuine advances of medical science, the physician's claim on belief was greatly strengthened. By means of licensing laws and restrictions on medical education, the profession secured control over entry into the market. And through the defeat of government health insurance and the restriction of public health activities, it deterred intervention by the state in the financing and control of medical care.

Changes in social structure and the organization of medical practice enabled the transformation to take place. The key developments in medicine were the spread of hospitals and the growth of specialization, which greatly increased interdependence among physicians. Before the late nineteenth century, doctors could practice medicine almost entirely on their own; they had every incentive to distinguish their own brand of practice and to seek public favor by denigrating their colleagues. But as they came to have more need of hospital facilities and patient referrals, their dependence on each other's good will increased. Toward the end of the nineteenth century, the sectarian antagonisms in medicine abated, and the profession

began to assert its common interests. The general rise of corporations, trusts, and labor unions encouraged doctors and other groups to develop their own associations and secure legislative protection by licensing.

At the same time, scientific achievements not only improved the efficacy of treatment, particularly of surgery, but also helped restore a sense of the *legitimate complexity* of medicine, which had been lost in the Jacksonian period. In the 1870s and 1880s, after an interlude of a half-century, state legislatures began to restore medical licensing laws, though initially in a weak form. In 1901, the AMA reorganized, turning a hodgepodge of local and state medical societies into a closely knit national federation. Within ten years, its membership grew from 10 to 50 per cent of the profession. As state medical societies became more influential, they won stronger licensing statutes, requiring longer and more expensive training to enter the profession. Under the new requirements for laboratories and clinical facilities, medical education became unprofitable and the commercial schools closed. A much-celebrated 1910 report from the Carnegie Foundation, written by the educator Abraham Flexner, reinforced this movement, which was already under way at the time the report appeared.

With the closing of the proprietary colleges, the number of medical graduates dropped sharply, from 5,747 to 2,529 a year between 1904 and 1922. This greatly reduced competition among practitioners. In the same period, two technological developments — the spread of the telephone and of mechanized transportation — drastically reduced the cost of contracts between doctors and patients, and enabled physicians to shift most of their practice from their patients' homes to their own offices, where at regularly scheduled hours they could see many more patients a day than formerly. Medical practice became much more remunerative. Between the turn of the century and the late 1920s, physicians' average incomes appear to have increased sharply, climbing to four times the average income of the gainfully employed, roughly where they have remained ever since.⁵

We are now in the midst of the fourth critical period in the development of medicine. Roughly since 1965, though the main developments have their antecedents earlier,

medical care has been in the throes of what editorialists and politicians have endlessly labeled the "health care crisis." The rhetoric of crisis is not innocently descriptive; it is meant to persuade the public—not without reason—that medicine is in trouble and that major changes in its organization must be entertained. Typically, the complaint is that there is no health care "system"; half a century earlier, few would have supposed that such a thing ought to exist. Yesterday's pluralism has become today's disorganization. Implicit in that changed perception is an immense shift in attitudes, brought about by the continuing pressure that the rise in medical costs is putting on government budgets, corporate profits, and the take-home pay of union members. That is why the sense of crisis and the proposals for change have come from corporate and union officials alike, and why conservative political leaders, like Richard Nixon, have taken up the rhetoric of crisis with the same urgency as liberals, like Edward Kennedy. In a sense, the current crisis that the American medical profession faces is that its views and its interests are no longer being defended by the economic and political leadership of the society.

In some respects, contemporary developments resemble the Jacksonian era, in that the threats to the legitimacy of professional authority are intellectual as well as political. Just as serious doubts were raised in the nineteenth century about the value of medicine, so today a revived "therapeutic nihilism" questions the net effectiveness of the medical system as a whole.⁶ Now, as then, professional prerogatives established in an earlier period are being challenged by egalitarian demands to democratize medical knowledge and to open up access to the ranks of practitioners. As in the 1830s, the medical profession today is losing its grip on state policy and the structure of the market. But the pattern of events is quite different.

The internal redistribution of power. With the rise of medicine as the second largest industry in the society, there has been a shift in the balance of power from the medical societies to corporate organizations, particularly to the hospitals, medical schools, and insurance, and planning bureaucracies. The American Hospital Association, Blue

Cross, the American Association of Medical Colleges, and the Health Insurance Association of America are now formidable rivals of the AMA. Even among doctors, the AMA's strength has declined, as physicians identify more with their own specialty than with the profession as a whole.⁷

The extension of citizenship. Entitlement to health care, while not yet universal, has grown, as the idea of citizenship is extended to include entitlements to social welfare as well as to political rights. Whether health care should be treated as a matter of right—in the same sense as, for example, a person's right to counsel when accused of a crime—is a thorny question. At present, no such right legally exists, but the society is gradually coming to act as if it did.

The growing centrality of the state. As a result of both the extension of entitlements and the demands of medical institutions, the government has been drawn into the financing of health services. Public funds now account for more than 40 percent of health expenditures. As its investment has risen, the federal government has assumed an enlarged role in making sure that its money is well spent. The federal budget and federal regulations increasingly become the arena where conflicts in medical care are fought out.

The breakdown of assumptions and the conservative assimilation of reform. Social policy in medicine used to assume not only that more medical care would improve the nation's health, but also that expanded health insurance coverage could be grafted on to the existing fee-for-service system, and that most decisions could be left to individual practitioners. Many who advocated widening access to medical care by national health insurance were especially anxious to reassure physicians that even though the benefits of medicine would be extended, its organization would be preserved. This confidence has been shaken. Even among conservatives in recent years, fiscal prudence has brought an increased willingness to contemplate previously unthinkable changes in the organization of medicine. There have been simultaneous attempts to introduce more regulation and more

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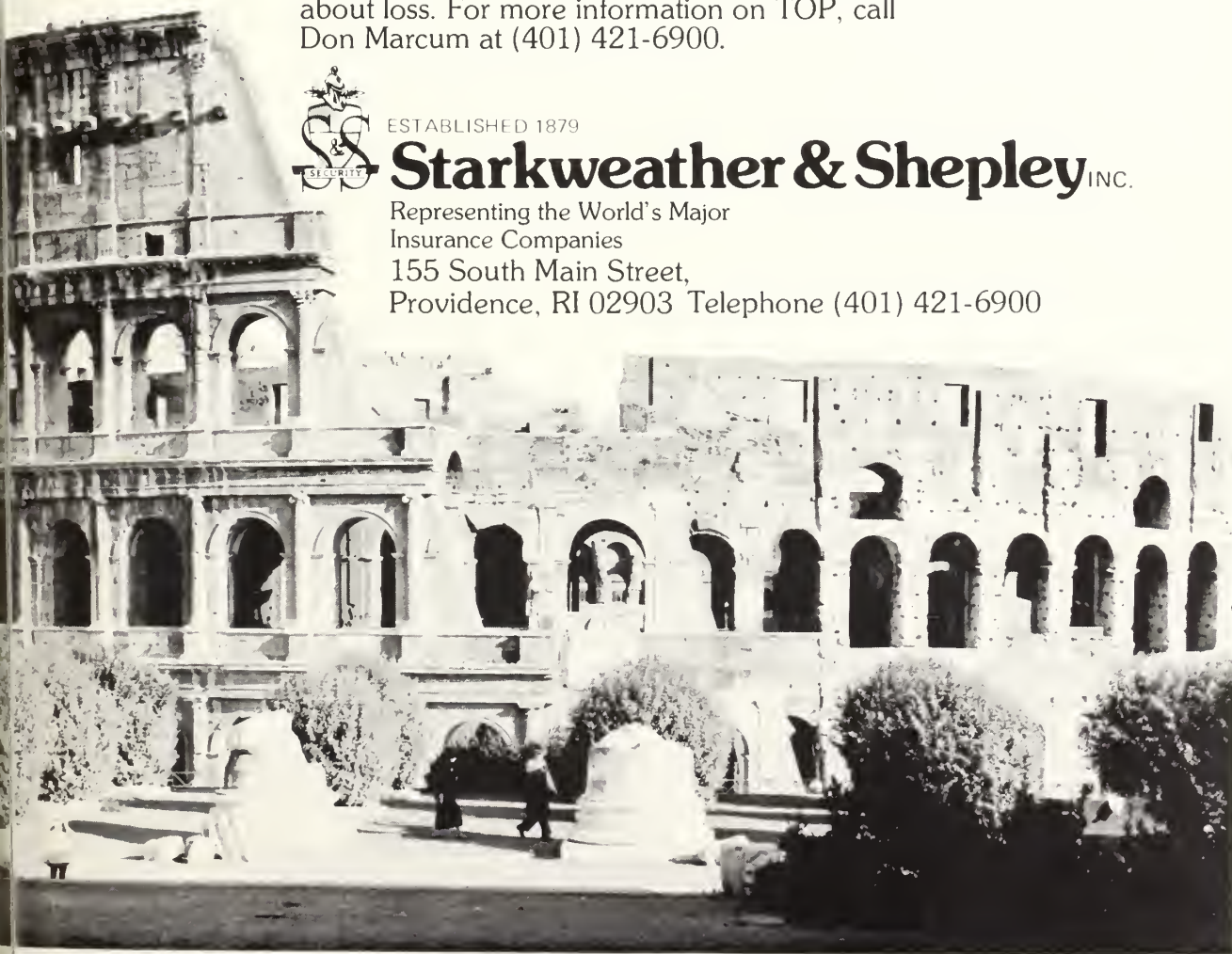


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The Maker

Examining a Few Myths About Prescribing.

Increasing pressure is being put on the practicing physician to prescribe drugs generically. You are told that brand-name products are universally "expensive" and generic versions are relatively "cheap." To make this case, the most extreme (rather than typical) price differentials are cited. Thus, consumers are led to believe that such differentials are commonplace. Even your knowledge and your motives as a physician are questioned.

Understandably, these views have created myths. We think it's time to examine them in the light of all the facts and ramifications.



MYTH: There are no differences in quality and performance between brand-name products and their generic counterparts. The corollary is that there are no differences among products made by high-technology, quality-conscious, research-based companies and those made by commodity-type suppliers.

FACT: The Food and Drug Administration does a good job in monitoring a generally excellent drug supply. Still, it has nowhere near the resources to guarantee the quality and bioavailability of all marketed products at any given time. Just a few months ago, for example, it noted that batches of tetracycline HCl capsules which met official monograph requirements were

not bioequivalent to a reference product. As we know, there is substantial literature on this subject affecting many drugs, including such antibiotics as tetracycline and erythromycin. The record of drug recalls and corrections affirms strongly that there are differences among pharmaceutical companies and their products. Research-intensive companies have far better records than those that do not. Research and may protect minimum quality assurance.

MYTH: Industry favors only "expensive" brand names and denigrates generics.

FACT: PMA companies make 90 to 95 percent of the drug supply, including, therefore, most generics. Drug name clature is not the important point; it's the existence of the manufacturer and the integrity of the product that

Matters.

Generic options always exist.

About 55 percent of prescription drug expenditure is for single-drugs. This, of course, that for percent of such nature, is a generic pricing option avail-

Generic options are filled with active generics, thus consumers large money.

Market data show that invariably the cost of brand-name—and pharmaceutical—both and generically manufactured products from the same manufacturer and trusted source is in the best interest of patients. In most cases, the patient receives the same brand product. The cost of generic products from voluntary generic manufacturers are grossly inflated.

MYTH: *Drugs account for a major portion of the rise in health care costs.*

FACT: Drugs represent a very small part of such costs. The amount of the health care dollar spent for prescription drugs was about 12 cents in 1967; today it is about 8 cents. And you as a physician are most conscious of how drug therapy can cut hospitalization, avert surgery, reduce office visits and keep patients on the job.

MYTH: *Government intrusions into the marketplace will save tax money.*

FACT: Government schemes always cost the taxpayer something, and the costs often exceed the benefits. Certainly, any federal "help," such as lists of wholesale drug prices sent to all physicians and pharmacists, will be no exception. Just think of the expense of keeping them current! Moreover, wholesale prices are poor guides to actual transaction prices and even worse guides to retail prices.

The PMA Position

We believe your freedom to prescribe, either by generic or brand name, should be totally unabridged. Otherwise, your prescribing prerogatives and your relationships with patients will be seriously impaired.

The maker does matter

After the myths about price and equivalency have been shattered, one fact stands out more clearly than ever: *The maker does matter.* As always, your best guide to drug therapy for your patients is to select products—both brands and generics—from manufacturers with credentials and performance records you have come to respect.



Pharmaceutical Manufacturers Association
1155 Fifteenth Street, N.W.
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competition into medicine; so far, the effects have been negligible, and at times at cross purposes, but these measures have yet to run their course.

The growing power of corporate institutions and the federal government, the extension of the idea of citizenship, the discarding of old assumptions and the assimilation of reform—these various developments all have their counterparts in other areas of American society. They are now just lurching forward in American medicine, later and more slowly than elsewhere.

III

Medical care has long seemed to exemplify the ways in which America abstained from the dominant patterns of political development and social policy in the West. For some time the United States has been the only major nation in the advanced industrial world without a national health program. Perhaps the repeated defeat of universal health insurance here was reflection of an individualistic and heterogeneous society, where the roots of mutual social obligation ran less deep than in Europe; or perhaps only the result of the weakness of socialist parties and labor unions, which were never enough of a threat to the political order for health insurance to be needed as a way to preempt their appeals. Probably the biggest factor, at least the most immediate, was the effective resistance mounted by American doctors, whose political influence, status, and prosperity had risen with the growth of the AMA and the changes in medical education that occurred before the first campaign for health insurance around 1915. Health insurance was the only one of the four major components of European social insurance—workmen's compensation, unemployment insurance, and old-age pensions were the others—that had not been enacted in the United States by the late 1930s. Until quite recently in America, the state played no central part in financing and organ-

izing medical care.

Instead, the government stood at the periphery of the medical system, its role restricted to functions that did not interfere with private interests. In addition to public-health services, the state provided medical care directly to a few groups, which had some special claim on the public interest or no money to pay for treatment on their own. Federal hospitals served merchant seamen, military personnel, and veterans. State governments maintained mental hospitals and tuberculosis sanitariums, providing for patients who had no resources for long-term and custodial care. County and municipal governments maintained hospitals and dispensaries for the poor who were unable to afford private treatment for more acute and episodic problems. These institutions were kept on a short leash. Physicians and upper-class social reformers were anxious to curb what used to be called "hospital and dispensary abuse"—that is, free treatment of patients who really could afford to pay their own way. Similarly, when public health agencies became involved in vaccination campaigns, free treatment of school children, or other efforts that local physicians felt might infringe on their source of livelihood, their representatives fought to make sure that the proper limits to government activity were observed. The state was supposed to plug the gaps in the private sector, not to pay for medical services for the public at large.

Even though the New Deal greatly changed the relationship between state and society in America, it had little impact in medicine. The failure to incorporate medical care in social security proved to be a fateful choice, opening the way for the rise of a private health insurance industry. Insurance financing developed two special features. It emphasized hospital insurance, separate from insurance for other medical care, and it was arranged primarily at the workplace as a fringe benefit of employment. The first Blue Cross hospital insurance plans, beginning in 1929, were organized by the hospitals themselves as they searched for a more stable source of funds than out-of-pocket payments by patients and charitable contributions, which had slumped with the Depression. Opposition from the AMA prevented the plans from offering general medical insurance, which the doctors

feared might lead to controls over their fees. Later the medical societies organized Blue Shield plans, under their own control, to cover physicians' services. Commercial insurance companies also entered the field, and by 1951 their share of the market exceeded that of the "Blues."

The federal government indirectly fostered the development of private health insurance plans. During World War II, while wage-and-price controls were in effect, unions turned increasingly to health insurance and other fringe benefits as a way of eluding limits on wage increases. Congress also encouraged private employee health funds by making payments into the plans exempt from income taxes. As inflation and growth in real wages pushed workers into higher marginal tax brackets, their incentive to take income in health-insurance benefits rather than cash increased. Moreover, as medical costs rose, health insurance became virtually a necessity, at least for anyone with an income or assets to protect. The part of the population carrying insurance against hospital expenses grew from 50 to 70 per cent between 1950 and the early 1960s, and to 80 per cent by the mid-1970s. In recent years, the main growth in health insurance has come from expanded coverage in other areas. Between 1962 and 1974, the proportion of the civilian population covered for prescribed drugs rose from 26 to 67 per cent; for x-ray and laboratory examinations, from 35 to 73 per cent; for nursing home care, from 3 to 33 per cent; for dental care, from 0.5 to 16 per cent. With this broadening of coverage, the proportion of total health expenditures paid through health insurance has steadily increased from 12 per cent in 1950 to 28 per cent ten years later and to 40 per cent by 1974. But despite the growth, coverage remains uneven, with numerous exclusions, limitation, and cost-sharing ("coinsurance") provisions. Insurance pays 77 per cent of hospital costs, but only half the cost of physicians' service and less than 10 per cent of other expenses.⁸

I mention these various statistics because the patterns in the growth of private insurance have had a profound effect on medical care in America. It has given medical institutions, particularly hospitals, immense financial security. Because funds for hospital care are taken out of paychecks before families ever see

them, consumers have little opportunity to cut down spending for institutional medical care in a recession. The bulk of funds diverted to the medical system are safe from the vicissitudes of the economy. Furthermore, health insurance increases total spending for medical services by reducing cost consciousness among both patients and physicians at the time that medical services are provided. If a doctor prefers to be 99 per cent sure of a diagnosis by adding a new battery of tests, instead of 98 per cent sure, there is little to discourage him from doing so. Neither he nor the patient is likely to pay for it. Unnecessary services, provided simply to recover from the insurance companies, are probably the smaller part of the problem; the greater costs come from paying increasing amounts of money for diminishing improvements in treatment. But so long as hospitals and physicians are paid for individual services, they have an incentive to multiply the number of services and the total cost, without weighing the relationship of costs to benefits. Finally, the insurance system has the additional effect of providing a buffer between the employee groups that purchase medical care and the medical institutions that provide it, preventing any direct bargaining over the quality, cost, and accessibility of services. The general function of insurance for the medical system has been to insulate it from recessions, cost constraints, and public dissatisfaction.

The expansionary tendencies of private insurance have also been reinforced by public policy. After World War II, the federal government entered a new phase in its relation to medical care. While national health insurance was defeated once again under Truman, the government began providing aid for hospital construction (through the Hill-Burton program) and for medical research and training (through the National Institutes of Health and the National Science Foundation). The role of the state in medicine had shifted from peripheral services to *complementary investment*. Over the next two decades, the federal government had as its primary commitment in medicine the development of facilities, scientific innovation, and human capital. In 1950, amendments to the Social Security Act provided that the federal government would share with the states part of the cost of reimbursing private institutions for

medical services to recipients of public assistance. This program was the embryo of Medicaid.

The year 1965 was a turning point in the relationship between medicine and government, as it was in so many other areas of foreign and domestic policy. In the wake of Johnson's landslide victory over Goldwater, Congress finally approved government health insurance for the aged (Medicare) as well as expanding federal assistance to the states in financing medical care for the poor (Medicaid). Once again, the major private interests were accommodated. Physicians were promised that no changes would be made in the organization of medical care, hospitals were provided reimbursement on the basis of their individual costs, and Blue Cross and other private insurers were given roles as fiscal intermediaries to process claims and make payments. Far from expanding the state at the expense of the private sector, Medicaid and Medicare proved to be a boon to private physicians, whose incomes increased; to private hospitals, whose bad debts were cut; to profit-making nursing homes, whose business soared; and to Blue Cross, which received a "public service charge" on top of expenses that looked every bit like a profit.

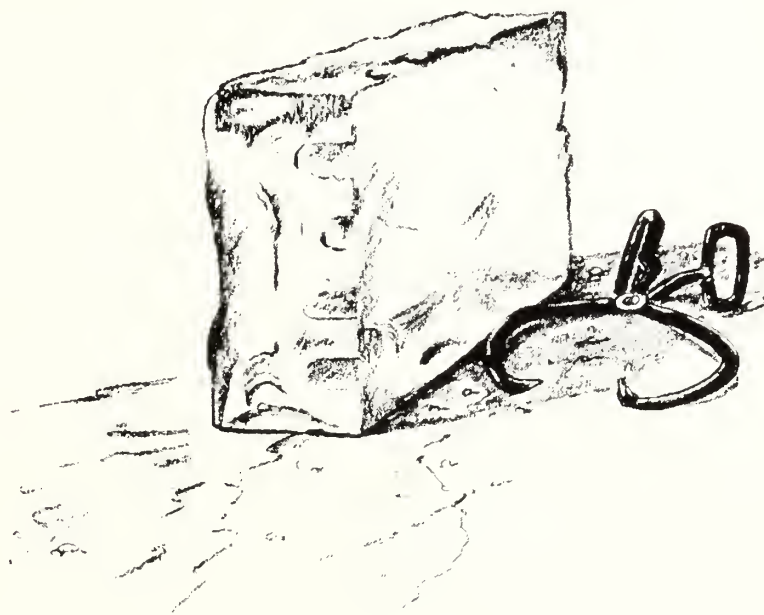
For medical care, the Great Society, unlike the New Deal, was a major break with the past, signaling a turn in federal policy from complementary investment in research and construction to the direct financing of services. But the separate identities of Medicare and Medicaid perpetuated a traditional distinction in American social policy between approved social insurance and disapproved public assistance. As social insurance, Medicare acquired a definite respectability, like social security pensions, while Medicaid, as public assistance, acquired an unmistakable stigma, like "welfare." Nonetheless, Medicaid did eliminate the charity status of many poor patients in hospitals, entitling them to treatment in semiprivate rooms, where they had more privacy than in the large open wards that used to be reserved for the poor. The architecture of hospitals reproduces the history of class relations in a particularly vivid form. When hospitals were strictly for the poor, the open ward, devoid of privacy, predominated. As the rich began to enter hospitals in the late nineteenth century, private rooms increased. The spread of semiprivate rooms was the cor-

relate of the triumph of the middle class, and its extension to the poor has been symptomatic of an improvement in their position.

Medicaid and Medicare resulted in some clear progress toward equal access to medical care. Before their introduction, the poor had lower rates of physician visits and hospital treatment than higher income groups; afterward, the poor actually exceeded other groups in their use of medical services. In 1964, members of poor families averaged 4.3 visits to a doctor, while members of families who were not poor averaged 4.6 visits. By 1973, physician visits by the poor had risen to 5.6 a year, while visits by other persons stood only at 4.9. Yet here one must enter several important qualifications. A great deal of evidence indicates that the poor have more severe health problems than other groups; many people are poor precisely because they are disabled and have been unable to work. Higher rates of utilization are to be expected; some evidence suggests that relative to levels of disability, use of medical services actually remains lower among the poor. Second, despite the aggregate patterns, among two age groups—children and the aged—the poor continue to show lower rates of physicians' services. Third, outside of the states of the north and west, Medicaid programs are often quite limited; the improvements have not been consistent across the country. Rural areas, especially in the South, have been passed by. And finally, the poor receive medical care under less convenient, less pleasant, and less salutary conditions; in urban areas, they depend much more than others on hospital emergency rooms, in part because private physicians are scarce in the neighborhoods where they live. While Medicaid has improved their purchasing power, inequities in the distribution of physicians continue to limit their access to services.

When Congress enacted Medicare, it added Medicaid almost as an afterthought; few people gave the program serious attention. But the costs rapidly burgeoned, rising from \$3.45 billion in fiscal year 1968 to \$19 billion in 1977. This has occasioned widespread alarm. The increase, as Karen Davis of the Brookings Institution has shown, can be explained almost entirely as a result of the growth in the number of welfare beneficiaries, general medical-care inflation, and rises in the cost of nursing home

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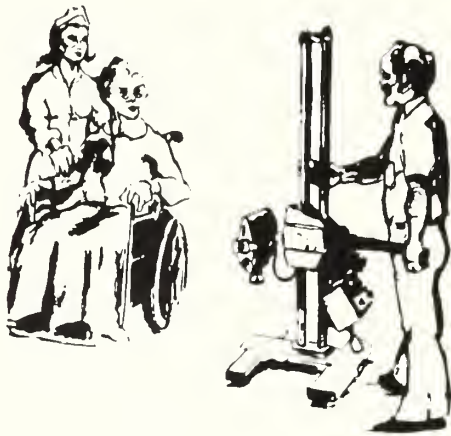
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care. The public image is that Medicaid serves poor families at greatly inflated expense. But when similar populations are compared, Medicaid costs turn out to be no greater than private insurance. Recipients of "welfare" (Aid to Families with Dependent Children) actually receive only a third of Medicaid expenditures, while the elderly in nursing homes receive 40 per cent. Medicaid has ended up paying for more than half the cost of nursing homes in the country, primarily for people who have run out of Medicare benefits and exhausted their own savings.⁹

Periodic scandals have beset Medicaid, as duplicate billings, unnecessary services, and other kinds of fraud and inefficiency have come to light. Whether Medicaid is worse than private insurance is unclear; the Medicaid "mills" that have been the targets of exposes may be less able to protect themselves from public embarrassment than respectable non-profit hospitals that engage in the same practices to balance their budgets. Typically, there is an outcry in the press about Medicaid abuses, a congressional inquiry follows, and perhaps a few indictments are handed down, only to be quietly dismissed after the furor subsides. The attempt to punish miscreants has been unaccompanied by major efforts to provide the poor with superior alternatives to the Medicaid mills and hospital emergency rooms they depend upon. Strapped for funds, the states have responded by cutting back Medicaid benefits. Here the legislature will eliminate hearing aids; there, eyeglasses; in still a third state, the rates for physician reimbursement will be reduced, discouraging doctors from serving Medicaid patients, who are then driven into more expensive hospital outpatient departments. The last few years have seen a continuous retrogression, as medical costs have steadily been thrown back on the poor by state governments unable and unwilling to make savings by reorganizing health services. The aged now pay the same proportion of their income on out-of-pocket medical expenses as they did before Medicare, which covers only 35 per cent of their health-care costs.

One of the ironies of Medicaid and Medicare was that while this great expansion in government financing was a windfall for private hospitals and nursing homes, it has not done public institutions much good. In pro-

viding services of any kind, the government usually has at least two alternatives. It can produce the services itself through its own agencies, or it can allocate funds (or create tax incentives) for their purchase from the private sector. In medicine, the government has been moving from the first alternative to the second. Increases in the allocative functions of the state have not brought any growth in government "production" of health services. In fact, the movement seems to be in the opposite direction. All the various government-owned hospital systems have fallen on bad times. The old municipal hospitals have been in dire trouble. In cities like New York and Philadelphia, serious conflicts have erupted over whether to close some of them down; in California some county hospitals have already been sold to private investors. Similarly, the hospitals of the Veterans Administration and the U S Public Health Services face a doubtful future. For different reasons—the long term drop in the number of tuberculosis and mental patients—state institutions have been in decline. Although vigorous lobbies have kept most of these hospitals open, not one of the government-owned systems is expanding.

These institutions are, in a sense, vestigial; they are left over from an earlier phase in the relationship between medical care and the state. Once the poor qualify for coverage under Medicare or Medicaid, they can receive services from private as well as public hospitals. The more universal the entitlement to health insurance becomes, the less rationale there will be for maintaining a special class of government hospitals limited to particular categories of people. So, paradoxically, the passage of national health insurance may well mean a further shift in institutional ownership from the public to the private sector.

Two principal motives now exist for national health insurance. One is to extend insurance protection to those groups that have been omitted from both public programs and private health insurance. Millions of people in rural families and among the unemployed and those who work in low-paying or temporary jobs still lack any kind of coverage. America has historically restricted social services, except for education, to particularly deserving groups. Income allowances have not been given to the poor generally; they have been given to the disabled, the blind, the aged, and

the families of dependent children. To obtain assistance, the poor have had to qualify in some special way. The principle of universal health insurance would announce a major break with that tradition. Yet its practical significance is not as great as it is usually made out to be. The gradual extension of private insurance over more than thirty years means that a national program will add only an incremental amount to insurance protection. Its main effect on medical care is likely to be an increase in demand for ambulatory services, since coverage for hospitalization is already nearly complete. At this point, national health insurance is a midcourse adjustment in a journey long under way.

The main problems arise in regard to the second motive for enacting a federal program—the urge to consolidate the financing of health care in the interests of rationalizing its organization. The politics of health insurance in America today have been greatly complicated by the existence of private insurers. Other industrial nations introduced government health insurance before a substantial commercial sector could develop; America now has the problem of displacing firms that already exist. By the early 1970s most other questions about health insurance had been resolved; the fundamental issue dividing the leading proposals was the role of private insurers. While conservatives have tried to preserve—in fact, increase—the private insurers' market, the liberals want to transfer health insurance to the Social Security Administration, with private firms at most acting as fiscal intermediaries. Because this involves transferring private insurance funds into the federal budget, the general impression is that it would "cost" more. But this may not be so. It depends on how vigorously reorganization is pursued. The continued dispersal of financing among a variety of third-party payers, public and private, makes it difficult to control expenditures. A unified system would permit much greater leverage. The presumption of public debate is that the aim of national health insurance is to increase medical services; its real function may be to constrain their growth, by giving the government the power necessary to limit total expenditures.

What is fundamentally at stake is control over the system. The current "fragmentation"

reflects the natural urge of physicians, hospitals, and other institutions to elude checks on their behavior. The call for a coordinated system of health care is, therefore, not merely a desire for bureaucratic rationality, but a challenge to their most deeply felt interests in remaining independent. Oddly enough, the accelerating rise in medical costs is simultaneously paralyzing and driving government policy. Because of growing costs Congress is reluctant to enact a comprehensive insurance program, but to control these costs, it may be pushed to take more radical measures than it would otherwise contemplate. This has already been happening.

IV

In public debate about medical care, national health insurance has usurped attention, overshadowing other developments that may be of equal long-range importance. As the federal government has assumed a rising proportion of the cost of health services, it has appropriated various ideas, such as prepaid group practice, the monitoring of physician performance, and health planning, that were once the proposals of radicals and reformers who were completely outside the regnant political consensus. But a fundamental shift in emphasis has taken place. The same measures that used to be advocated, without much success, as ways to improve medical care are now being adopted as ways to save money.

Prepaid health care. Prepaid health plans offer comprehensive medical services for a fixed amount of money per year (a method of payment commonly known as "capitation").¹⁰ Such programs have met strong resistance from physicians, who see them as a threat to private, fee-for-service practice; in 1943, the AMA was convicted of violations of the Sherman Antitrust Act as a result of its efforts to blacklist doctors participating in a consumer-controlled prepaid plan in the District of Columbia. Many of the early programs had their origins in the cooperative movement; a

few were sponsored by physicians. But by far the biggest was the creation of the industrialist Henry Kaiser. Today the Kaiser-Permanente Health Plan has nearly three million subscribers, primarily in California and Oregon. In Seattle, the largest consumer-run program, the Group Health Cooperative of Puget Sound, has more than 200,000 members.

These programs were generally established in the hope of improving the quality of medical care by organizing doctors into groups, coordinating services, and emphasizing preventive care. But during the late 1960s they began to attract wider interest because of the record they established in reducing costs, primarily as a result of low rates of hospitalization. Suddenly, to the chagrin of their old left-wing supporters, they were being touted in *Fortune* as a way to cut rising health expenditures. In the interest of selling the idea to the public, prepaid plans were renamed health maintenance organizations (HMOs), a new term that included not only prepaid group practice, but also the "medical care foundation," a variant more acceptable to doctors. A foundation can simply be a financial entity set up by private practitioners—it need have no actual facilities—to receive annual prepayments from subscribers and to reimburse participating hospitals and physicians by fee for service. In 1971, President Nixon adopted HMOs as a central part of his health policy, but the program was soon scaled down in his own administration and chewed up in Congress. The legislation that emerged in late 1973, supposedly to aid emerging HMOs, required them to offer higher benefits than private insurers under less favorable conditions, and promised to make HMOs the most heavily regulated part of the medical system. By 1975 the program was moribund. Still, the prepaid plans already functioning continue to do well, and amendments to the HMO Act passed in 1976 may help revive the federal program.

Peer review. Since the Progressive era, the United States has relied on licensing to guarantee a minimum standard in medical practice; physicians have strongly opposed any direct monitoring of their actual performance. But in 1972, as part of an effort to cut the costs of Medicare and Medicaid, Congress quietly

provided for the establishment of a network of "professional standards review organizations" (PSROs) to monitor physicians' treatment of hospital patients paid for by federal programs. One physician called the measure "the most radical health legislation in this country's history. For the first time, he noted, doctors would be "held publicly accountable for the quality, medical necessity, efficiency, and cost-effectiveness of the health care they provide."¹¹ Although the principle may be radical, the PSROs are not; they are composed exclusively of physicians. The congressional sponsors of the program hoped to identify doctors who hospitalize too many patients or overprescribe certain drugs and then to deny them reimbursement or impose damages. The hoped for savings remain to be achieved; some observers think that PSROs may actually increase costs by setting norms for treatment higher than those actually in practice. But they are at least beginning to work out methods for assessing physicians' performance, which may help in determining what standards of medical care can realistically be set. The results may have value even if the program fails to accomplish its original aims.

Health planning. Hospitals and other medical facilities have developed in America in splendid isolation, with no regard to the duplication of services or the overall needs of their communities. In the late sixties, the federal government made some tentative gestures in the direction of planning, without giving planning agencies any effective power. Then in 1974 Congress merged a number of earlier programs into a national network of about two hundred "health systems agencies" (HSAs), to be set up as independent planning organizations outside state and local governments. It also required the states to pass laws obliging hospitals and other institutions to obtain "certificates of need" before undertaking major capital expenditures. (Many states had already done so, at the urging of the hospitals themselves.) Although the AMA fought the legislation, denouncing it as a "dangerous intrusion . . . into the practice of medicine," others have worried that the new agencies will be captured by the dominant "providers" in an area and used by them to prevent the emergence of new competitors like

HMOs. Curiously, the federal law imposing this new regulatory structure on the health industry was signed by President Ford while he was calling for a general cutback of government regulation.

Health manpower. Within the last fifteen years, there have been two shifts in federal policy, first to increase the total supply of physicians and then to correct imbalances in their distribution. In the mid 1960s, having accepted the prevailing view that America suffered from a general "doctor shortage," Congress began providing aid to medical schools according to a formula that encouraged them to expand their enrollments. It also revised U S immigration laws, abolishing the old national quotas in favor of a system of occupational preferences, which brought about a sharp rise in immigration by foreign physicians, primarily from Asia. The new policies assumed that through the natural workings of the market, doctors would distribute themselves satisfactorily, by region and specialty.

That premise turned out to be wrong. An increased supply of physicians was no guarantee that enough would settle in poorer areas or go into low-status general practice. Instead, they congregated in the suburbs and the high-prestige specialties. By the 1970s, analysts became concerned that a national surplus of surgeons might be driving up rates of surgery and hospitalization and contributing to higher costs. In 1976, Congress decided that there was no longer any general shortage of physicians, and turned its attention instead to encouraging young doctors to enter "primary care" and practice in underserved communities. Recent legislation requires medical schools to offer about half their residencies in "primary care" fields (e.g., general practice, family practice, general pediatrics and internal medicine) and provides scholarships to medical students on the condition that they serve in the National Health Service Corps one year for each year they receive assistance. The Corps, which was created by Congress in 1970 to place volunteer physicians and other health workers in underserved areas, has until now been a small program, but if the scholarships are fully funded, they may increase its size from two

hundred doctors to ten or twenty thousand by the late 1980s.

All these measures, from health maintenance organizations to the National Health Service Corps, were anathema to conservatives only a short time ago, yet they passed Congress with important conservative support and were signed into law by Presidents Nixon or Ford. (The PSRO amendment, which was especially reviled by private doctors, was introduced by a Utah Republican, Senator Wallace Bennett, who was originally elected in 1952 with strong AMA support because of his opposition to national health insurance.) By the time these measures were enacted, each had a respectable conservative logic. HMOs were going to bring modern management techniques and an element of competition to health care, while peer review and health planning would cut waste, and the National Health Service Corps would help preserve private medical practice by encouraging doctors to settle in poor areas thereby making more drastic government programs unnecessary. But whatever justification they had, these were still reforms that a decade earlier would have been rejected out of hand as infringements on free enterprise and the doctor-patient relationship. The political consensus quietly shifted to the left, although the changes have as yet been small in their effects.

It is too early to tell what their ultimate impact will be. In medicine, as in other departments of social policy, many people have been overeager to pronounce the programs of the 1960s a failure. While Medicare and Medicaid did not eliminate inequalities in the distribution of medical care, they have significantly reduced them. While peer review, health planning, health maintenance organizations, the National Health Service Corps, and other initiatives have not yet realized the hopes of their sponsors, they are providing experience that may enable later developments to succeed. Some of the programs are going to begin bearing fruit only in the next several years. For example, the expansion of medical education that began in the late 1960s has doubled the size of medical-school classes, but because of the extended length of training, the full impact of the increase has yet to be felt. Finishing their residencies, many of the young doctors may find it difficult to establish them-

selves in private practice and may be more readily attracted than their predecessors to alternative ways of providing medical care. A rising supply of physicians could greatly facilitate efforts to change the medical system. But it could also cause further increases in health expenditures by generating a large volume of services. In either event, it will make it more difficult for fee-for-service medicine to prevail.

V

What are the long-run prospects? The growing urge to control the total resources that medical care absorbs has brought an increased caution about the benefits of medical treatment, especially technologically complex services, and a greater skepticism about turning every form of social distress or personal disquiet into a medical problem. But different lessons are drawn from the limits of medicine. The individualist stresses the responsibility of personal conduct for differences in health and sees voluntary behavior at the heart of the problem. The socialist or environmentalist emphasizes the role of social institutions in creating conditions that are physically dangerous, like carcinogens in the air, or morally unsatisfactory, like oppressive work situations. The unrepentant scientist argues that medicine is still in its infancy and will yield results if sufficient investment is made in research. The unrepentant planner insists that, whatever the state of science, the environment or individual behavior, the system of medical services has to be oriented toward improving health, which means rationally assessing the effectiveness of modes of treatment and investing resources in those programs that count most.

Politically, there is a gathering determination, as yet unrealized, to impose on medical services the rationality of bureaucratic organization, of market competition, or of democratic control. The basic structural issue is in what form these alternatives are combined, and how far they develop.

Although no single impulse yet governs, the bureaucratic movement is strongest. One line of development, within the fee-for-service system, is to monitor the decisions of individual practitioners, to do detailed budget review of medical institutions, and to control the supply of manpower and technology at the national level. A second possibility is simply to set a fixed annual budget for medical care, to be allocated by regional authorities, which in all likelihood would be run by the dominant "providers" in an area. Here costs would be controlled by arbitrary ceilings, but the professional and institutional interests would retain their decision-making autonomy within those limits. A third possibility is a system of competing prepaid health plans, whose internal incentive to control costs would keep expenditures down; here there might also be extensive consumer representation. Finally, if all else fails, there might be a government-run national health service. The future will almost certainly bring an administered medical economy of some kind, not because that is what anyone really wants, but because it is what no one seems to know how to avoid. Whether it will be a more decent and humane system no one yet can tell.

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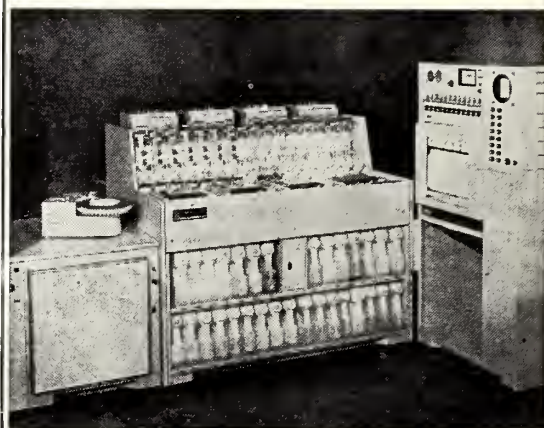
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Editorials

Tom Randall

Elsewhere in this issue of the *Journal* is a tribute to Thomas Henry Randall, Jr., who is retiring in June 1979 from his duties as Surgeon-in-Chief at Rhode Island Hospital and Professor of Medical Science and Chairman of the Section on Surgery at Brown University.

Doctor Fiorindo A. Simeone, who is the author of the sketch, was himself not so long ago the Chairman of the Section on Surgery. We have suggested before in these columns how the advent of Simie and Tom to these felicitous shores made of Rhode Island almost at once a full blown world center of surgical physiology. It is fitting that these two surgical giants of diverse background but each in his way having Rhode Island blood in his veins, should have "come home" to finish his career in the Ocean State and to contribute to its stature in academic medicine and more specifically "in the vineyard of surgery." We are confident that the high standards they have established here will endure.

Tom Randall has long been a valued member of the Editorial Board of the *Rhode Island Medical Journal*. We have greatly appreciated his wise counsel and benefitted from his wide experience and academic orientation.

We trust that he will find the time to continue to be a part of the *Journal* family.

The Class of 1979

We have now for the fifth year devoted the May issue of the *Journal* to you the graduating class of the Brown University Program in Medicine.

The diverse backgrounds of the members of your class and their future plans are well

documented herein. Their ideals are eloquently expressed in the oath which you will take upon graduation.

Some of the profound and far-reaching problems which you will face in your long careers are expressed in cogent terms in the perceptive paper by Paul Starr, appearing elsewhere in this issue.

We appeal to you here as welcome guests and some as members of organized medicine to consider seriously your role in the medical community. While each one of you will eventually become a specialist of one sort or another, all nevertheless will be doctors. Your specialty interests will be nurtured by specialty societies. But there is only one body of physicians that represents everyone.

We urge you both as residents and as practitioners in order to advance the good name of medicine, to help preserve the noble traditions of the profession and better to serve the public, to join your local county and state medical societies, and most importantly the American Medical Association. Organized medicine needs your help. These are fine organizations and will strengthen your role in ministering to the sick and less fortunate.

We are aware that many of you will travel to other parts of the country for training and practice. For those who stay here or return on a later day, we welcome the renewal that will bring to us and look forward to having you as a part of our fellowship.

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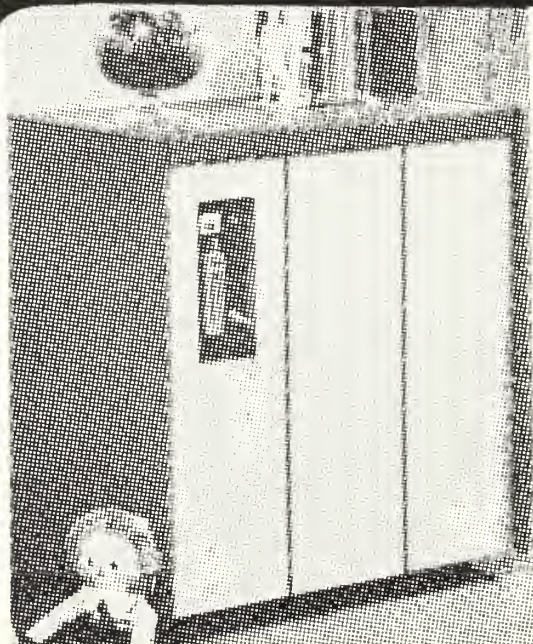
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Editor's Mailbox

Notes to the New Physicians

To the Editor:

Here are some thoughts which I should like to share with the new graduates:

Your formal learning days are nearing an end, and soon it will be time to learn some of the things you couldn't get in that process. Call it practical knowledge, or what have you, here are some suggestions (from being a physician's wife during the last thirty years):

1. Take opportunities to communicate with your colleagues, and don't deprecate too hastily.
2. Keep an open mind, and seek advice when needed.
3. Male physicians, select a good wife to help you with your social responsibilities.
4. Send thank you notes. Gifts given in

special situations in lieu of a fee demand an appreciative note as much as any other gift, preferably in the physician's own illegible handwriting.

5. Look for tax advantages, ways to make your business more productive for now and well into the retirement years.

6. Find time early in your professional life for contributions outside your field — in civic, political, church or fraternal organizations.

Female physicians are gradually increasing in numbers, and the first seem to have to live up to a higher standard, just to gain acceptance. So here are a few special suggestions for the female practitioner:

1. Be aware of your personal grooming just as much as ladies your age in other fields.
2. Accept your full role of responsibility with your male counterparts, and don't beg off as the not-so-strong sex.
3. Join your professional organizations. Memberships have fallen off, and female practitioners participate even less than males in

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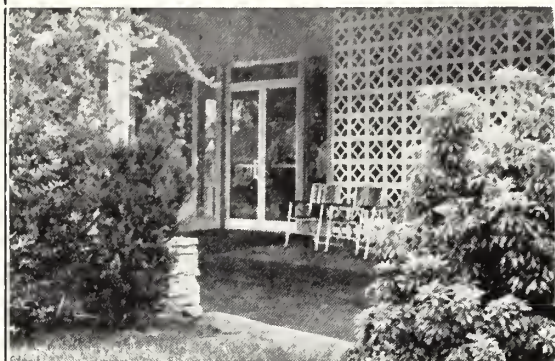
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4. When attending professional meetings, share the tab. Don't gain an undesirable reputation by failing to put up your share of funds when the check comes.

5. Be femininely attractive, an occasional hostess, pleasant, socially and professionally conscious.

Hoping that these ideas may have some constructive force, may I wish you and yours many happy years of learning and enjoying together.

Shirley L. McNelis
350 Wayland Avenue
Providence, RI 02906

In 1819 the temperance movement reared its austere head in the Rhode Island Medical Society, and it was voted "that this Society will in the future discontinue the use of all wines and ardent spirits at their annual dinners."

This resolve lasted exactly one year, for at the annual meeting in 1830 it was "voted and resolved that the dining committee furnish wine."

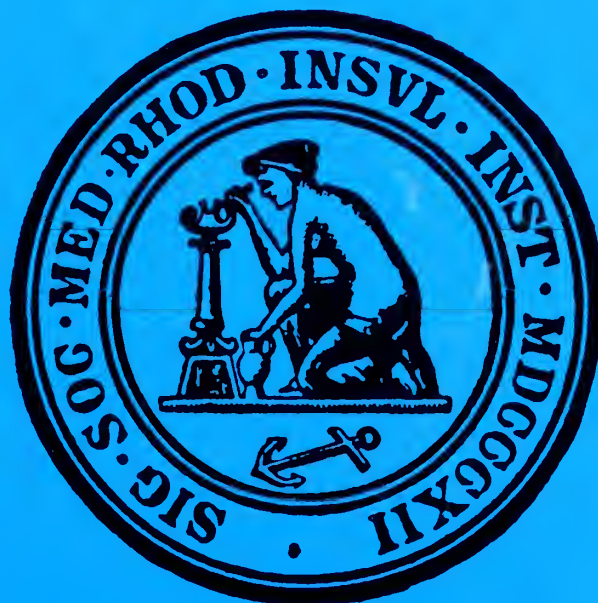
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Rhode Island Medical Journal

June, 1979

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Papers on Smoking

Is *Any* Cigarette Safe?

See Page 249

Newsletter Enclosed

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Usage in Pregnancy: Use of minor tranquilizers during first trimester should almost always be avoided because of increased risk of congenital malforma-

tions as suggested in several studies. Consider possibility of pregnancy when instituting therapy; advise patients to discuss therapy if they intend to or do become pregnant.

Precautions: In the elderly and debilitated, and in children over six, limit to smallest effective dosage (initially 10 mg or less per day) to preclude ataxia or oversedation, increasing gradually as needed and tolerated. Not recommended in children under six. Though generally not recommended, if combination therapy with other psychotropics seems indicated, carefully consider individual pharmacologic effects, particularly in use of potentiating drugs such as MAO inhibitors and phenothiazines. Observe usual precautions in presence of impaired renal or hepatic function. Paradoxical reactions (e.g., excitement, stimulation and acute rage) have been reported in psychiatric patients and hyperactive aggressive children. Employ usual precautions in treatment of anxiety states with evidence of impending depression; suicidal tendencies may be present and protective measures necessary. Variable effects on blood coagulation have been reported very rarely in patients receiving the drug and oral anticoagulants; causal relationship has not been established clinically.

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Rhode Island Medical Society

NEWSLETTER

James R. Clarkin, *Editor*

June, 1979

RI Committee Promotes Voluntary Effort ("VE")

Background. Early in 1978 the Rhode Island Medical Society and the Hospital Association of Rhode Island met to form the Rhode Island Joint Committee on Voluntary Cost Containment in Health Care, composed of representatives from each of these organizations, as well as a representative from the Association of Presidents of Hospital Staffs in Rhode Island, and since April 1979, from Blue Cross/Blue Shield of Rhode Island. After review of areas of cost containment concern in the state, the Committee makes recommendations, which are submitted to the appropriate organizations. Present members of the Committee include Joseph E. Caruolo, MD, Mr. James Clarkin, Mr. Francis Dietz, Charles L. Hill, MD, Richard Judkins, MD, Mr. James McGovern, Mr. Douglas McIntosh, Mr. Thomas Parris, and Mr. William Sweeney.

A Good Start in Rhode Island. Rhode Island is in the forefront nationally of efforts to control health care costs. For example, Rhode Island's voluntary prospective reimbursement program already includes rigorous scrutiny of hospitals' expected revenues, proposed expenditures, admissions and other statistics. Also, in Rhode Island there is a long history of hospital utilization review activities, which has culminated in a full delegated status by the Rhode Island Professional Standards Review Organization (RIPSRO) for all Rhode Island hospitals. The rate of increase in hospital costs in Rhode Island is well below the national average.

"VE" Committee's Role. The Rhode Island Joint Committee's view of its responsibility has been described as "global rather than operational." There has been strong consensus that in compact, heavily-structured Rhode Island, it would be most inappropriate for a Joint Committee such as this one to become involved in the development of specific plans for cost containment programs, the implementation of such

programs, or the negotiation or resolution of issues about which there may be conflicting views or positions of Committee members, their organizations, and other community elements. The Committee's roles are to monitor, to "brainstorm," and to serve as a catalyst, stimulator, and educator or advisor on cost containment issues about which Committee consensus is discovered to exist.

Where to Cut Costs? The identification of areas of concern in the cost containment effort is one of the Joint Committee's goals. These are some of the most important of the problems requiring attention:

- (1) Wasted costs because the *public is uninformed* in their demands on the health care system.
- (2) Wasted costs in the area of *extensive external regulation* of the health care system.
- (3) Wasted costs because of *lack of physician involvement* in cost containment issues.
- (4) Wasted costs because of *poor management* of various kinds of health care resources, including technology and manpower.

Surrounding concerns 1-4 is the overriding concern that the *necessary elements for a viable ongoing health care delivery system* be identified, in order that these not be curtailed, which would constitute cost containment against the public interest.

From the President:

I urge all members of the Rhode Island Medical Society to consider with great seriousness the concept of the independent practice association. Legislation now exists requiring employers to offer prepaid programs to their employees, and there is no doubt in my mind that the end result will be the imposition of a fixed dollar fee schedule for disease entities.

In this free enterprise system it is still our choice, if we are willing to do it ourselves now, to join together within our geographical areas, seeing as many fee for service patients as desired, but also providing services to a prepaid group of patients. We may eventually be able to join with hospitals, pharmacists, dentists and other members of the industry to offer a complete health care package far superior to any bureaucratic national health insurance plan.

Some details of administration, peer review, cost accounting and organization of independent practice associations will appear in a future issue of this publication.

Charles L. Hill, MD

SHCC Plan?

A special report on SHCC appeared in the recent May issue of the *Rhode Island Medical Journal*. The Committee on Delivery of Medical Care would like to know what you think of the plan, if you have any *comments or suggestions* about it as a whole or in any of its parts. Please contact Charles E. Millard, MD, 1180 Hope Street, Bristol, RI, 253-8900. Copies of the Special Report are available from the Executive Office, 331-3207.

Annual Meeting

1979



Mayor Vincent A. Cianci, Jr. presents the Chapin medal to Dr. Joseph E. Cannon.



Dr. Charles L. Hill is new President of the Rhode Island Medical Society.



Jim Clarkin, Executive Director (L) and Past President, Dr. Frank W. Sullivan (R).



Dr. Charles L. Hill (L) is congratulated by outgoing president, Dr. Joseph E. Caruolo (R).

1979

Annual Meeting



applauding the Charles V. Chapin Oration, in foreground Dr. Charles E. Millard (L) and Dr. Milton W. Samolsky (R).



Dr. Peter L. Mathieu, Jr., is the new President-Elect.



Taking away his program after the meeting, Dr. Stephen J. Hoye, Past President.



Dr. Joseph E. Pesare (L) and Dr. James A. McGrath (R) congratulate Dr. Cannon on his Oration.

Peripatetics

James H. Herndon, MD has been appointed chief of the Department of Orthopaedic Surgery at Rhode Island Hospital.

Officers of the Rhode Island Hospital Staff Association for 1979 are: **Robert S.L. Kinder, MD**, President; **Edward A. Iannucci, MD**, President-elect; **John C. Lathrop, MD**, Vice President; **Thomas C. McOsker, MD**, Treasurer; **J. Robert Bowen, MD** and **James H. Herndon, MD**, Executive Committee Members-at-Large.

Ronald M. Gilman, MD has been appointed college physician for Barrington College.

A lecture on "Iontophoresis Treatment" recorded by the Audio-Digest Foundation of the California Medical Association was presented by **Mary D. Lekas, MD** in Las Vegas.

Fiorindo A. Simeone, MD has been honored with The 1978 Distinguished Service Award of the Hospital Association of Rhode Island.

New Roger Williams General Hospital Medical Staff officers are: **William M. Colaiace, MD**, President; **Mario Tami, MD**, Vice President; **Henry J. Robidoux, Jr., MD**, Secretary-Treasurer; and **Martin P. Feldman, MD**, Executive Committee Delegate.

Williams S. Klutz, MD has been appointed chairman of the Department of Surgery of Roger Williams General Hospital.

Hugo Taussig, MD, child psychiatrist and advocate for children's mental health services, has been appointed vice president for clinical services at Bradley Hospital.

The Caleb Fiske Fund Essay Prize for 1979 has been awarded to **Charles E. Millard, MD**, who is receiving this honor for the third consecutive time.

A Letter of Distinction Award was presented to **Wilfred I. Carney, MD**, by Saint Vincent College, Latrobe, Pennsylvania for distinguished service to his community.

Leo Stern, MD is serving as director of a seminar on pediatrics to be held this summer at Colby College, Waterville, Maine.

Surgeon-in-chief of Ophthalmology at Rhode Island Hospital, **Robert S. L. Kinder, MD** made his ninth trip to St. Lucia in the West Indies to assist at St. Jude Hospital.

A 1979 William Williams Keen Award of the Brown Medical Association was awarded to **Frederick W. Barnes, Jr., MD**. Recipients of Brown Medical Association faculty awards this year included **Martin E. Felder, MD**; **Edwin N. Forman, MD**; **Henry T. Randall, MD**; and **Stephen H. Zinner, MD**.

At the recent annual meeting of the American Psychiatric Association **Melvyn Johnson, MD** was elected to the rank of Life Fellow.

Local physicians recently named Fellows of the American College of Cardiology are **Fredric V. Christian**, **Robert L. Curran**, **Thomas M. Drew**, **David L. Kitzes**, and **Robert D. Meringolo, MDs**.

Anti-Conflict Calendar

Who can be in two places at the same time?

The Rhode Island Medical Society maintains an Anti-Conflict Calendar for the purpose of helping organizations in the planning of educational and other activities for the medical profession. If an organization with which you are involved is planning an activity please call the Society office (331-3207) to find out if any activities have already been scheduled for the date. When you have finalized a date, let us know so we can give the information to others.

Help Needed:

One neurologist, one internist, to assist the Rhode Island Association for the Blind one afternoon each month for two hours. Remuneration is \$50.00. If interested, please contact the Executive Office, 331-3207.

A physician to serve on the Board of Examiners for Nursing Home Administrators. The board meets eight times a year, meetings usually scheduled at 1:30 pm. No compensation. If you are concerned with the care and treatment of the chronically ill and infirm elderly and are interested in serving on this board, please contact the Executive Office, 331-3207.

2nd Opinion Program

In the Rhode Island second professional opinions program only 32 calls were received between the beginning of the program last September and the end of March of this year.

— Correction —

In the February, 1979 issue of this Newsletter ("CME Update") The Memorial Hospital was erroneously omitted from the listing of hospitals in the state which have met the LCCME criteria for accreditation.

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The Consequences of Smoking in Pregnancy

Decreased Birth Weight, Spontaneous Abortions, Increased Perinatal Mortality, And Slowed Childhood Development Are Demonstrable Effects

By William H. Hollinshead, III, MD, MPH

The medical evidence against smoking has grown rapidly in recent years, so that several diseases are now unequivocally linked to cigarette use.¹ The ubiquity of cardiovascular, pulmonary, and neoplastic problems has given weight to the medical argument, and 20 million Americans have quit since 1964.² Fifty-three million of us still smoke, however, and the very young are acquiring the habit in disturbing numbers.^{1,3}

In the last decade the only dramatic increase in prevalence of smoking has occurred among young women.¹ As discussed by Marshall in this issue of the *Journal*³, there are data that suggest that our region and our state may be leaders in this unfortunate trend. The growth of smoking among

young women is an especially serious failure of preventive medicine. It is a dramatic and preventable new risk to health in a very healthy group. It will prolong the growing epidemic of lung cancer in females.⁴ It will also add new and serious risks to the childbearing and childrearing of these women. Thus, a new smoking habit in a 16-year-old girl increases both her personal risks for early disability, disease, and death, and also the generational risks to any children she may bear in years ahead. The direct health threats to the smoker are well presented elsewhere,^{1,4} and their local impact in Rhode Island has been discussed by another member of our group.³ This paper is a brief review of the data on smoking and pregnancy, intended to serve as another plank in the platform against tobacco.

These data add to the cumulative weight of evidence against smoking. They may have special impact in our society, since children have a special status in American attitudes, a kind of pediatric imperative in which all sorts of sacrifices and special efforts are possible "for the sake of the children." Maternal smoking is now clearly injurious to little children: (1) it has a dramatic negative effect on birth weight; (2) it is associated with spontaneous abortions; (3) it is linked to increased loss of babies in the perinatal period; (4) it may have significant effects on future growth and performance; and (5) it is certainly associated with transmission of the smoking habit to future generations.

From the Section on Community Health of the Brown University Program in Medicine and the Evaluation Unit of the Rhode Island Cancer Control Program. The preparation of this article was supported by the US Department of Health, Education and Welfare (NCI) and the Rhode Island Department of Health. The conclusions and findings are the sole responsibility of the author and do not necessarily reflect the views of the supporting organizations.

WILLIAM H. HOLLINSHEAD, III, MD,
Instructor in Medical Science, Brown University Program in Medicine, Providence, Rhode Island; Medical Programs Evaluator, Rhode Island Cancer Control Program, Providence, Rhode Island.

Birth Weight

The first noted and best documented association with smoking in pregnancy is the decrease in birth weight among babies delivered to smoking mothers. Since Simpson's article in 1957,⁵ this finding has been replicated in many populations by case-control and longitudinal methods.^{6,7} The observed decrement of birth weight is dramatic⁸ (150-250 gm drop in the mean of a normal curve) and very consistent over different age groups, socioeconomic backgrounds, and obstetrical histories.^{9,10} The causal hypothesis has been further strengthened by demonstration of a dose-response relationship, heavy smokers delivering the smallest babies,^{9,11,12} and by the observation that children of mothers who quit by the 20th week seem to recover most of the loss.¹³ Since low birth weight is a powerful predictor of perinatal problems independent of gestational age, this smoke effect has been of great interest to several disciplines.

Although there is some residual controversy about causality,¹⁴ attention has now turned to the search for pathophysiologic mechanisms to explain the deleterious effects of smoking. In a world of parsimonious principles one would like a single explanation for the change in birth weight and all the other apparent effects of smoking. Two mechanisms have been explored in detail — one implicating poor oxygen transport, the other blaming decreased caloric intake.

Carbon Monoxide: The most prominent hypothesis explaining decreased birth weight among babies of smoking mothers refers to the easily demonstrated high levels of carboxyhemoglobin in both maternal and fetal blood.¹⁵ In an elegant review of the subject Longo¹⁶ has marshalled extensive data on the many effects of carbon monoxide (CO), including the special exposures of smokers and the inhibited CO clearance of the fetus. Small deficits in oxygen transport capacity can lead to large drops in fetal tissue oxygenation, especially in times of high demand (ie, at delivery). Thus, carbon monoxide toxicity is a plausible explanation for both low birth weights and increased perinatal mortality. Permutt *et al* point out that the effect of smoking on pregnancy outcome is remarkably similar to the (presumably oxygen mediated)

effect of high altitudes on gestation.¹⁷ Poor oxygenation may also increase tissue sensitivity to other toxins, whether from smoke (nicotine and other substances), ambient air (pollution), or endogenous sources (bilirubin). Although much basic work remains to be done, the known effects of CO exposure are ominous, and the apparent dose-response similarities between changes in oxygenation, decreases in birth weight, and other bad effects on the fetus (below) make carbon monoxide a most important factor in any plausible explanation of these phenomena.

Caloric Intake: Rush¹⁸ and Davies¹⁹ have proposed a direct nutritional effect on birth weights of smokers' babies. Based on strong anecdotal evidence and on studies in animals and non-pregnant human subjects^{20,21} Rush has argued that smoking suppresses maternal appetite, which limits maternal and thereby fetal weight gain, especially in the last half of pregnancy. His data from the control group of a nutrition experiment do show significantly slower maternal and fetal weight gain in the smoking groups.

Unfortunately, there are serious questions unanswered, since Rush's data are from a small, selected group of special-risk pregnancies, with short periods of observation and no record of actual calories ingested. Although most of the variance of birth weight associated with cigarette smoking is jointly shared with maternal weight gain in his regression analysis, the total variance explained thereby is modest (R^2 between 0.05 and 0.08). More disturbing, a larger part of the variance in Rush's data can be ascribed to shortened gestation among the smokers — a finding which has not been important in other studies,^{9,22,23} but which may be very important in Rush's rather deprived population.

Davies has also compared maternal weight gains with birth weights among smokers and non-smokers.¹⁹ He too suspects an important nutritional effect and reports significantly decreased maternal gains in heavy smokers between the 20th and the 36th week. However, the decrement in birth weight among heavily smoke-exposed babies is even more dramatic. At 8 per cent the loss is comparable to the decreased birth weights observed in the Dutch famine of 1944. It seems extremely unlikely that even the heaviest smoker would have reduced her

caloric intake to the levels of that wartime catastrophe. Some other metabolic effect therefore must intervene. Like Rush, Davies did not collect dietary histories, and his data do not cover the first trimester.

The simple inverse relationship between smoking and maternal appetite has appealing anecdotal validity, and it is especially attractive to those who suspect it would be easier to get mothers to eat more than to smoke less. Unfortunately, the only available evidence²⁴ indicates that smoking mothers may actually consume more calories, but put on less weight. Thus the dramatic reduction in fetal growth must result from some strong intervening effect on essential metabolism. The possibilities for toxic, neurochemical, or endocrine effects of smoking on feto-maternal protein-caloric balances are numerous and largely unstudied.²⁴ Careful energy balance studies of smoking and non-smoking mothers are needed to resolve this issue.

Other Mechanisms: Cigarette smoke contains a large variety of toxins, few of them well studied. Nicotine, cyanide, lead, arsenic, formaldehyde, and hundreds of other substances have been found in smoke,^{25,26} but their actual effects on smoke-exposed placental or fetal tissues is not known. Each of these possibilities deserves research. Most seem likely to be important (if at all) as toxins augmented in circumstances of reduced oxygen transport capacity.¹⁶ Some may turn out to have more specific roles in the etiology of abortions, placenta previa, and other smoke-related complications of pregnancy.

Spontaneous Abortions and Anomalies

There are now several large studies showing an association between maternal smoking and spontaneous abortion.^{27,28,29} Most of them were not designed to provide comparable data or to control confounding variables, in part because spontaneous abortions were difficult to distinguish from illegally induced abortions before the Supreme Court ruling of 1973. In Kline's more recent study²⁹ a two-year series of spontaneous abortions in Manhattan hospitals was compared to a control group matched for age and parity. The data showed that the mothers suffering abortion were nearly 1.8 times more likely to be smokers than the control mothers. Kline's group did not find a dramatic dose-response relation-

ship, either by daily cigarette consumption or by depth of inhalation.

As with the deficit in birth weight at term, the pathophysiologic mechanism of these excess abortions among smokers remains hypothetical. There is little doubt that most abnormal conceptions result in spontaneous abortion, and most early losses are probably due to fetal abnormalities. Thus, Fedrick³⁰ *et al* have raised the possibility of a teratogenic effect of cigarette smoking. Most studies, however, have not shown extra karyotypic or morphologic anomalies among either the lost or the live-born children of smokers.^{31,32} In fact, there are data showing an unusually large proportion of normal karyotypes among spontaneous abortions in smokers.³³ Although their results are not yet reported, the Kline study also collected fetal tissue from the spontaneous abortions. If their results confirm earlier studies showing no direct teratogenic effect of smoking, the direct toxic hypotheses will be strengthened. If the excess abortions are not anomalous, then they are but the first manifestations of the cost of smoking — a cost in lost pregnancies which probably would have produced normal, healthy children.

There is a strong interaction between smoking and drinking to excess in the United States. In 1971 a "new," and rather common, syndrome of morphological abnormalities at birth was described as the Fetal Alcohol Syndrome. It is seen in babies born to heavy alcohol users, many of whom also smoke cigarettes. Although the role of tobacco in the Fetal Alcohol Syndrome is not yet clear,³⁴ it seems unlikely on pathologic and statistical grounds that classical alcoholism is an important factor in the spontaneous abortions, decreased birth weight, and other problems associated with smoking. The contribution of more common, less toxic drinking patterns to the outcome of pregnancies among smoking mothers has not been assessed, nor do we know much about the interaction of alcohol with carbon monoxide in fetal tissue.

Perinatal Mortality

The debate about increased perinatal mortality in pregnancies of smoking mothers is still active. Because confounding variables (age, socioeconomic status, previous obstetrical history) are powerful predictors of peri-

natal problems, Yerushalmy and some others still doubt the independent contribution of smoking. Most large studies, however, have shown a risk ratio of 1.1 to 1.4, with 6 to 10 per cent of all perinatal mortality attributable to maternal smoking.^{7,9,35} Differences in markers, measures, and controls make the studies difficult to compare. The increased risk, where detected, seems to be associated with other risk factors (young, old, poor, or poorly educated mothers) as expected. It is expressed as increased frequency of stillbirth at term and as early neonatal death, usually with respiratory symptoms. The measured risk disappears for mothers of high socioeconomic status and for mothers who stop smoking by the 20th week of pregnancy.³⁶ Goldstein points out that the well documented 200 gm *en bloc* decrease of the normal distribution of birth weight for pregnancies in smokers explains all of these observations.⁸ Although smokers' Low Birth Weight (LBW) babies do slightly better than the smaller and younger LBW's of non-smokers, a smoker's baby is much more likely to be small. Since risk rises dramatically with each decrement in birth weight (and especially since the baby of a smoking mother often carries other major risks) far too many of them have serious perinatal troubles.

In addition to the expected effect of decreased birth weight on perinatal mortality, there is at least one apparent special perinatal risk factor directly linked to maternal smoking. In the very large Ontario Perinatal Mortality Study, placental complications were strongly associated with smoking.⁹ Perinatal mortality risk was increased by 20 per cent for light smokers and 35 per cent for those who smoked more than one pack/day, of which about half could be ascribed to placental complications. They conclude that older mothers of higher parity should be especially discouraged from smoking, and that any bleeding among smoking mothers is likely to indicate placenta previa or abruption.

It is from these studies of perinatal and neonatal mortality that dramatic estimates of the impact of smoking come. In the published findings of the British Perinatal Mortality Study^{7,12,13} the rates were extrapolated to indicate that smoking was associated with an excess annual loss of 1500 babies in Britain

and 4600 babies in the United States.¹² Such estimates are useful mostly for their public effect, adding little light to science. However, since there is now scientific consensus that public smoking behavior should change, there is a need for effective, high-impact publicity. Reasoned "scare tactics" may be justified, especially when the special public concern for children may make them more effective.

Growth and Development

A statistically significant relationship between smoking in pregnancy and certain measures of later performance in the exposed children has been identified in a large longitudinal study of British children.^{37,38,39} Measurements of height, "general ability," reading comprehension, and mathematics ability were obtained at ages 7 and 11 for about 11,000 of the 17,000 children born in one week of March 1958. The differences between exposed and non-exposed children were modest when adjusted for parental size, age, social class, and number of siblings. There was a three to six month decrement in the abilities and about 1.0 cm in height lost among children of mothers who smoked beyond the fourth month of pregnancy. In fact, socioeconomic status and number of older sibs had more dramatic associations with these same measures. However, the smoking differences were significant at $p < 0.001$, and these data in a well-controlled large longitudinal study cannot be ignored. In mid-childhood, a time of very rapid intellectual development, measures of mental performance should be the most sensitive and most important markers of residual deficit. Since we know that there is a continuum of late manifestations of prenatal and perinatal insults, from gross impairment to very selective losses, it seems logical to ascribe some of the measured slowing to the same causes as low birth weight and increased perinatal mortality. Obviously, the potential confounding variables in such longitudinal work are legion. Nonetheless, in the absence of evidence to the contrary, the UK National Child Development Study indicates that school performance, and perhaps physical growth, should be included in the list of measures of the harmful effects of smoking in pregnancy.

Smoking in the Next Generation

From US data we must also add another risk to the list of dangers to children of mothers who smoke. Surveys of teenagers show considerable smoking in early adolescence and an especially distressing increase among girls, while rates among males and older females are stable or decreasing.^{3,40} Low parental education, low educational aspirations, early wage work, and parents absent from the home all correlate with smoking in both girls and boys. More important than that predictable association with "premature adulthood" are the patterns of smoking within families. Children are more likely to smoke if parents, older sibs, and close friends smoke. The association with smoking mothers and smoking older sisters is especially strong. Girls with a smoking mother and a smoking sister are four times more likely to smoke than similar girls in non-smoking families. This distressing pattern occurs in the face of near-universal "understanding" of health risks involved. The Surgeon General's report ascribes much of teenage smoking to the smoker's belief that she will quit before the health risks are manifest and to a general societal loss of male/female behavioral discriminators.^{1,3,4} Knowing what we do about the addictive pattern of cigarette use, we must assume that many of these girls will continue to smoke, closing the circle of generations to effect their own babies and later the smoking habits of those children.

Conclusion

It has been estimated that more than a third of Rhode Island women of childbearing age are smokers,⁴¹ and that 20-25 per cent of pregnant women continue to smoke. Sadly, at least a fourth of our health professionals most concerned with pregnancy are also smokers,^{3,42} diminishing their effectiveness as change agents. For professionals and lay people alike, the message should be clear: there are at least five strong reproductive arguments against smoking among women, in addition to the well-known direct risks to their personal health. As women achieve more independence, more leadership, and more control over their own health in our society, we can only hope that they will recognize these special risks, and respond appropriately.

A strong rejection of smoking by enlightened women would be an immense contribution to their health and to our posterity. However, we must all be aware of the difficulty of the change. Like men, women seem to be convinced that smoking is dangerous to their health. Unlike others, there is no evidence that young women have yet been persuaded to act on that knowledge.

Summary

Recent findings on the fetal effects of maternal smoking are presented, including decreased birth weight, spontaneous abortions, perinatal mortality, and perhaps slowed childhood development. The risk to succeeding generations is suggested as another powerful argument against smoking, with special relevance to young women, who are the only category of Americans with an increasing proportion of smokers.

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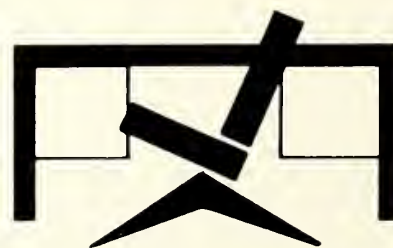
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Reference:

King, J. C. and Starkman, N. M. . Evaluation of an antispasmodic. Double-blind evaluation to control gastrointestinal spasms occurring during radiographic examination. A preliminary report. Western Med 5:356-358, 1964

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Do not rely on the use of the drug in the presence of complication of biliary tract disease. Investigate any tachycardia before giving anticholinergic (atropine-like) drugs since they may increase the heart rate. With overdosage, a curare-like action may occur. **ADVERSE REACTIONS** Anticholinergics/antispasmodics produce certain effects which may be physiologic or toxic depending upon the individual patient's response. The physician must delineate these. Adverse reactions may include xerostomia, urinary hesitancy and retention, blurred vision and tachycardia, palpitations, mydriasis, cycloplegia, increased ocular tension, loss of taste, headache, nervousness, drowsiness, weakness, dizziness, insomnia, nausea, vomiting, impotence, suppression of lactation, constipation, bloated feeling, severe allergic reaction or drug idiosyncrasies including anaphylaxis, urticaria and other dermal manifestations, some degree of mental confusion and/or excitement, especially in elderly persons, and decreased sweating. With the injectable form there may be a temporary sensation of lightheadedness and occasionally local irritation. **DOSEAGE AND ADMINISTRATION** Dosage must be adjusted to individual patient's needs.

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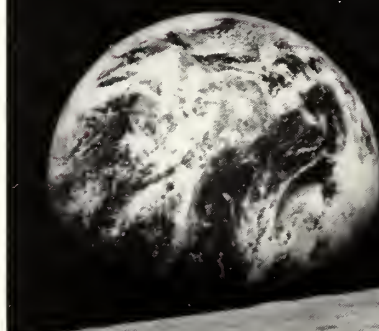
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Smoking in Rhode Island

The Proportion Of Adult Smokers In Rhode Island Has Apparently Declined

By Robert J. Marshall, Jr.

More Rhode Islanders smoke cigarettes in proportion to United States residents of the same age and sex. As early as 1964 the Advisory Committee to the Surgeon General concluded that "cigarette smoking is a health hazard of sufficient importance to warrant appropriate remedial action."¹ And according to a recent article in the *Rhode Island Medical Journal*, the evidence linking cigarette smoking with increased risk of lung cancer is now "indisputable."² The underlying complexity of the smoking phenomenon notwithstanding, these simple observations have disconcerted those charged with safeguarding the health of state residents.

Because of its focus on the prevention of lung cancer, the Rhode Island Cancer Control Project (RICCP) has undertaken the task of

reducing both the prevalence and amount of cigarette smoking in the general public and specifically among school children and pregnant women.³ The purpose of this paper is to summarize our knowledge of the relationship between smoking and lung cancer and to assess the extent to which this is a problem in Rhode Island. It is hoped that this discussion will assist those who are attempting to decrease the incidence of lung cancer due to smoking and will provide estimates of smoking prevalence against which to measure the success of preventive measures over time.

Since longitudinal data on smoking are not available for Rhode Island, however, much of the discussion will rely on inferences drawn from national population surveys and studies of target groups. This procedure assumes that factors which affect smoking behavior and associated morbidity and mortality rates of national subjects, broadly affect the population of Rhode Island in the same manner.

Lung Cancer: The Extent of the Problem

In addition to lung cancer, cigarette smoking has been associated with several other major diseases. Among them are: cancer of the larynx, mouth, esophagus, bladder and kidney; cardiovascular disease; emphysema; bronchitis and low birth weight.⁴ It is estimated that nationally these and other smoking related conditions are responsible for a yearly excess of 77 million man-days lost

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from work and over 300 million man-days of restricted activity.⁴ In 1977 alone 89,000 United States residents were expected to die from lung cancer — about 244 per day.⁵ This was not always the case.

Lung Cancer Mortality Rates: Male and Female. In 1916 the lung cancer mortality rate in the United States was close to zero. Since then not only have the mortality rates from this disease increased dramatically, but they have increased out of proportion to mortality rates from other cancers. Lung cancer has exceeded stomach, colon-rectum, and prostate cancers as the cause of death among males since 1950. Furthermore, the lung cancer mortality rate has been constantly rising while those of other leading causes of cancer death have been stable or declining.⁹

Among women lung cancer was relatively rare as recently as 1960. Between 1960 and 1975, the mortality rate from lung cancer among females experienced a steady increase — surpassing the mortality rate from cancer of the ovaries and cancer of the uterus. In short, lung cancer mortality rates have been increasing for both sexes. Furthermore, the changes in lung cancer mortality rates for males between 1930 and 1945 and for females between 1960 and 1975 are almost identical.⁹

Male and Female Incidence Ratios. The incidence of lung cancer in women is also fast approaching that in men. Data from Connecticut reveal that the male/female lung cancer incidence ratio (ages 35-44) has dropped from 4.7 to 1 in 1945-9 to 0.9 to 1 in 1975.⁷ This means that in certain regions of the country the relative increase in the female lung cancer incidence rate may significantly exceed the relative increase in the mortality rate. The situation with respect to lung cancer in females may be worse than one expects.

Lung Cancer Among Young People. Lung cancer incidence and mortality rates are also increasing among young people. Putnam,⁸ using the Armed Forces Tumor Registry, concluded that 70 per cent of persons with lung cancer were expected to be more than 60 years old. Only 3.9 per cent were expected to be less than 39 years old. Between June 1971 and June 1976, however, he observed 436 cases of lung cancer at Walter Reid Army Hospital. Twenty-five of them (5.7 per cent) were less than age 39. The youngest patient was only 19 years old.

Conclusions. The conclusions which can be drawn from these studies are unmistakable. Lung cancer is becoming an increasingly serious health problem in the United States. Unfortunately, medical treatment for lung cancer is relatively unsuccessful. Only 33 per cent of those diagnosed with local involvement and 11 per cent of those diagnosed with regional involvement live for five years or more. In comparison, 71 per cent and 44 per cent, respectively, of those with colon-rectum cancer live for five years or more.^{9,10} The picture is even more dismal when it is realized that very few lung cancers are detected at the early stages. Therefore, the best solution to the problem of lung cancer is a preventive one.

Cigarette Smoking and Lung Cancer: Epidemiologic Evidence

Risk Ratios: Smokers/Non-Smokers. In spite of persistent rebuttal by the tobacco industry and other sources,¹¹ the evidence linking cigarette smoking and lung cancer is overwhelming.^{2,4,13-15} The American Cancer Society study of over one million men and women between 1959 and 1965 has shown that cigarette smokers are more than twice as likely to die from all cancers than are non-smokers.¹⁶ The risk of lung cancer, however, is increased to a greater degree than that of any other site — from eight to eleven and one-half times that of non-smokers, depending on age.

Correlates of Increased Risk. Many studies have confirmed that lung cancer mortality ratios between smokers and non-smokers increase with the amount of cigarette smoking.^{1,17} A study by Hammond¹⁸ shows ratios ranging from 4.6 for those smoking less than half a pack per day to 18.8 for those smoking more than two packs per day.

The age at which smoking began is also an important correlate of lung cancer risk. Those who begin smoking at age 25 or more are only 4 times more likely to die of lung cancer while those who began smoking before age 15 are nearly 17 times more likely to die in this way.¹⁸

Male-Female Differences. Until quite recently, the relationship between cigarette smoking and lung cancer risk was thought to be less pronounced for women than for men. Hammond and others, however, suggest that the patterns of association between smoking and lung cancer are essentially the same when

the smoking habits for each sex are controlled.^{16, 18} A Swedish study concurs, finding that the lung cancer mortality ratios for those who smoke 8 - 15 cigarettes per day, compared to non-smokers are 8.3 for men and 11.3 for women.¹⁹ The relationship between sex and the increased risk of lung cancer among smokers, therefore, seems less important than previously recognized. In short, smokers of both sexes are at substantially increased risk of dying from lung cancer.

Occupational Differences. Certain occupations which continually expose workers to environmental carcinogens display increased risk of death from cancer when compared to others. Studies of the lung cancer incidence in such jobs have shown that workers who regularly smoke have a greater risk than workers who do not smoke regularly and a much greater risk than the general non-smoking population.^{17, 20, 43} Selikoff *et al* reported that, among insulation workers with relatively "light exposure" to asbestos, the risk ratio of death due to lung cancer between smokers and non-smokers was over 8 to 1.²¹ When adjustments were made for age and sex, the risk ratio between insulation workers who regularly smoke and the non-smoking male population was 92 to 1. This illustrates that not only is smoking a serious health hazard, but it interacts with certain other health hazards as well.

Conclusions. Cigarette smoking is thus shown to be strongly related to increased risk of lung cancer. It has been estimated that 80 per cent of the lung cancer deaths in the United States are excess deaths due to cigarette smoking.²² Therefore, to understand better the recent epidemic of lung cancer, one need only look at the longitudinal data on cigarette consumption. Between 1900 and 1970 per capita cigarette consumption increased from three packages to over 140 packages per year.²³ The similarity between the increase in lung cancer mortality rates and cigarette consumption is striking. Given current medical technology, it is clear that future trends in lung cancer mortality will depend heavily upon recent and future trends in cigarette smoking.

Trends of Smoking Prevalence

Adult Population. The proportion of the adult United States population which smokes

has been decreasing steadily since 1964.²⁹ Between 1964 and 1975 the proportion of adult males who smoke decreased from 53 to 39 per cent. The corresponding figures for females have been much less dramatic with a slight increase in smoking prevalence reflected in the 1966 national survey. Despite this anomaly the data do not suggest significantly different trends in the proportion of smokers by sex among these age groups.

Unfortunately, while the proportion of smokers has decreased, the number of smokers has increased with the overall population growth. Thus there were about 875,000 more smokers in 1975 than in 1970.²⁴ Some authorities feel that there has been a relative leveling-off in the number of cigarette smokers, maintaining that if the current trend persists, the number, as well as the proportion of cigarette smokers, may decrease.²⁵

Teenage Girls and Young Women. Concern has recently mounted over the increasing proportion of teenage girls and young women who smoke cigarettes. Between 1965-9 and 1975, the percentage of teenage American girls (ages 13 - 17) who smoke increased from 22 to 27 per cent while the proportion of teenage boys who smoke decreased slightly from 31 to 30 per cent.²⁷ Not only have they increased in proportion, but teenage girls have nearly caught up with their male counterparts in deciding to smoke.

With respect to amount smoked, however, teenage girls have overtaken the boys. Between 1969 and 1975 the proportion of teenage girls smoking at least a pack a day increased from 10 to 39 per cent while the percentage of teenage boys who smoked that much remained at roughly 31.²⁷

The trend in the proportion of young women (ages 18-35) who smoke has been similar to the trend for teenage girls. Between 1965 and 1975, the proportion of young women who smoked increased slightly from 34 to 36 per cent.²⁷ On the other hand, the proportion of their male counterparts who smoke actually decreased.

The amount smoked by young women changed dramatically between 1965 and 1975. The proportion smoking at least a pack a day increased from 51 to 61 per cent. Those smoking more than one pack increased from 9

to 25 per cent.²⁷ These observations clearly indicate that the general reduction in the relative risk of lung cancer among United States residents does not apply to teenage girls and young women. In light of the previously mentioned findings of the Connecticut Tumor Registry and others,⁷ this finding increases our concern regarding the future trends of lung cancer mortality.

National Correlates of Smoking Among Young Women. Included in the correlates of increased smoking among teenage girls and young women is the fact that girls who smoke have been immersed in a smoking environment. Eighty-four per cent have fathers who smoke, 64 per cent have mothers who smoke, and one-half to three quarters report that their boyfriends or most of their friends smoke cigarettes.²⁷ But parents and friends are not the only ones to encourage smoking — even if it is only “passive” encouragement. Sixty-eight per cent of teenage girls who smoke indicate that their doctors have *not* warned them against smoking. The role of health professionals will be discussed later. But as a result of these and other influences, 82 per cent of all teenage girls think of teenagers as smokers rather than nonsmokers.²⁷

Trends of Smoking Prevalence in Rhode Island

Per Capita Cigarette Sales. Unfortunately, Rhode Island lacks good smoking prevalence data prior to 1974. Therefore, it is impossible to make a direct estimate of the trend of smoking prevalence. One may make an indirect estimate using per capita cigarette sales rates. Other things being equal, the per capita sales rates should at least reflect the direction of the trend in cigarette smoking prevalence, if not its magnitude.

Between 1950 and 1975 the per capita pack sales in Rhode Island increased from 140.0 to 154.7.^{23,26} By 1977, however, there was a slight decrease to 148.8 packs sold per capita. Due to higher state taxes the cost of cigarettes in the neighboring states of Connecticut and Massachusetts has been higher than in Rhode Island throughout this period. Per capita pack sales should, therefore, be a liberal indicator of the trend in smoking prevalence, even though it may also indicate a change in the dis-

tribution of amount smoked among the population. Either way, these data suggest that Rhode Island is following the national trend of a decreasing proportion of cigarette smokers. As a result, the relative population risk of dying from lung cancer may be decreasing with time.

Data on Smoking Prevalence in Rhode Island. Recent data²⁸ indicate that a substantially larger proportion of adult Rhode Islanders (39 per cent) smoke cigarettes than of adult Americans as a whole (34 per cent). In Figure 1 the results of two surveys of adult smoking behavior are compared, one conducted in Rhode Island (1975) and the other a national survey (1975) which was previously mentioned.^{28,29} The national data were based on a telephone survey of 12,000 randomly selected telephone numbers and a smaller number of face-to-face interviews in areas known to have high percentages of non-telephone households.²⁹ The Rhode Island data came from a survey of 1,952 randomly selected households representing 5,655 individuals.²⁸ The Rhode Island data include both self and proxy reports of smoking behavior. Methodological differences do not seem to preclude cautious comparison of these findings.^{30,31}

The effects of age and sex on adult smoking prevalence in Rhode Island and the United States seem roughly equivalent. A larger proportion of males than of females smoke. The most notable anomaly in the Rhode Island data is the proportion of young women (age 20 - 24) who smoke, which is greater than that of young men in the same age group (46 percent versus 44 percent). This is not true nationally where only 34 per cent of the females aged 21 - 24, compared with 41 per cent of the males aged 21 - 24, smoke cigarettes. Lacking good longitudinal data for Rhode Island residents, the dynamics of this phenomenon are not clear; yet it parallels the recently identified trend of increased smoking among young women which was discussed earlier.

Teenage Smoking in Rhode Island. The data for Rhode Island are less specific, but demonstrate some similarity to the national trends and patterns of teenage smoking. In 1974 it was reported that among persons aged 12 through 17 years the rate of cigarette smoking for girls (19 per cent) was greater than

RI 1975²

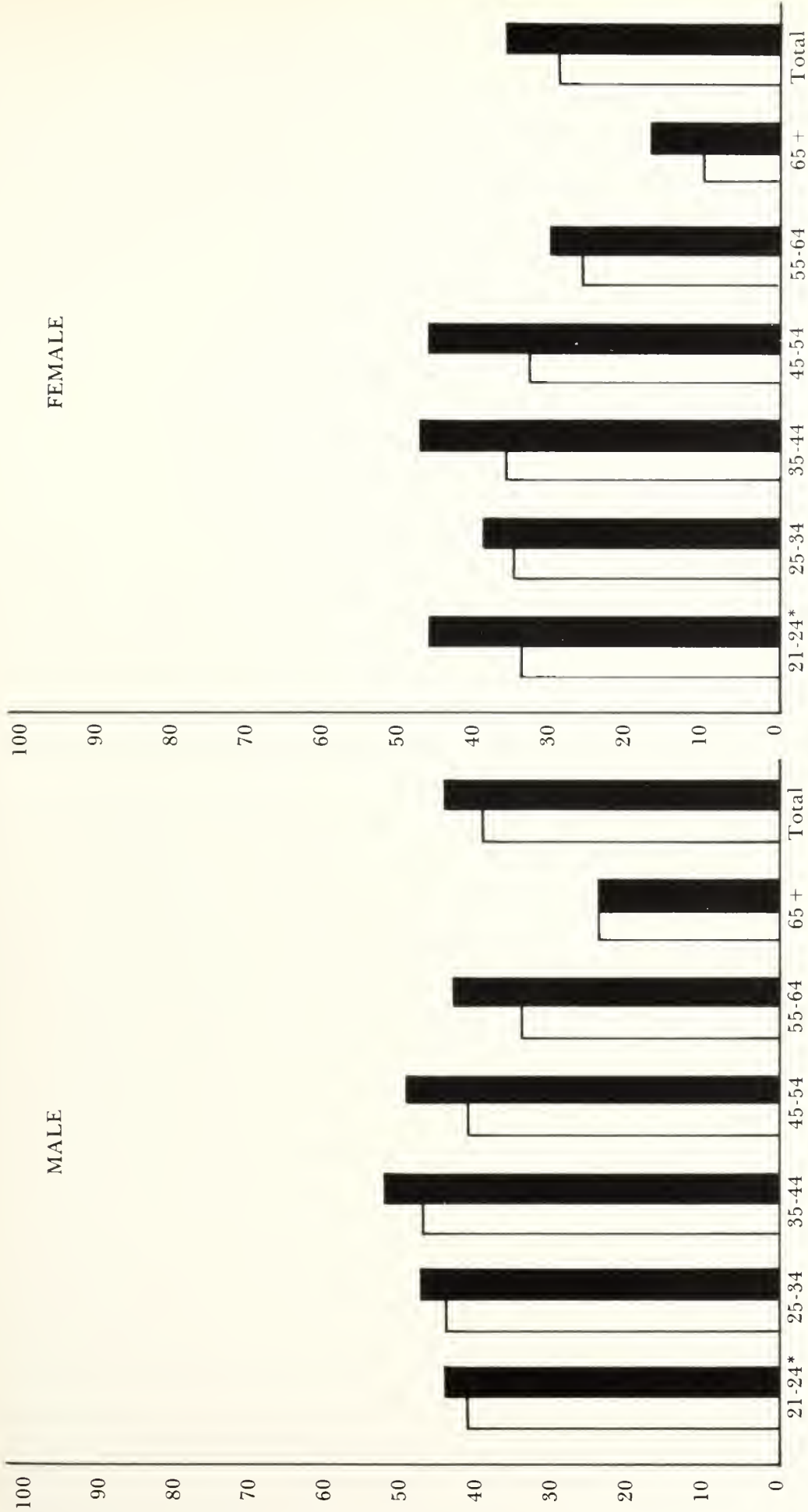


Figure 1 : United States and Rhode Island Current Adult Smokers — 1975

¹Adult Use of Tobacco, 1975, USDHEW (Telephone Survey)

²RI Household Survey, SEARCH 1975

* Also includes age 20 in Rhode Island

that of boys (14.5 per cent). For ages 18 through 34 the proportion of smokers by sex was reversed — females 43.3 per cent and males 50.6 per cent.

In 1975, however, the rate of current cigarette smokers by sex and age changed (see Table 1). While a substantially larger proportion of Rhode Island boys aged 16-17 smoked than did girls of the same age, the proportion of girl smokers between the ages of 18 and 24 clearly surpassed the proportion of boys. This observation reflects the national trend.²⁷

Table 1: Percentage of Young Persons Age 16-29 Who Smoke, by Age and Sex, Rhode Island, 1975.

Age Group	Sex	
	Male	Female
16-17	30.6	20.8
18-19	37.5	42.2
20-21	41.4	44.4
22-24	45.9	47.4
25-29	44.9	40.4

Source: SEARCH, 1975 Household Survey, Table 25.

Unlike their national counterparts, however, teenage girls and young women in Rhode Island do not smoke more heavily than teenage boys and young men.²⁸ Of girls aged 16-19 who smoke, 30 per cent smoke more than a pack a day compared to 34 per cent of the boys who smoke. And only 44 per cent of female smokers aged 20 through 24 smoke more than a pack a day compared to 49 per cent of male smokers of the same age.

Conclusion: Smoking Trends United States and Rhode Island. Generally speaking, the proportion of smokers in the United States is decreasing. The trends for teenage girls and young women force us to recognize that the campaign against smoking is not entirely successful. Available evidence suggests that while the proportion of Rhode Islanders who smoke may also be declining, a larger proportion of Rhode Island adults of both sexes smoke than do their national counterparts. Rhode Island teenagers and young women seem to follow the national pattern. All things being equal, one expects these

observations to indicate a future increase in lung cancer mortality rates, nationally and in Rhode Island, among women who are now 20 to 25 years of age. Steps must be taken to reverse the trend and to provide effective methods by which those who are currently smoking will quit.⁴² Whatever is done, it will most certainly involve health professionals and depend in part on their attitude and example.

Cigarette Smoking and Health Professionals

Health Professionals as Role Models. Apparently the facts about the harmful effects of cigarette smoking have been widely publicized and well received. By 1975, an estimated 90 per cent of the population agreed with the statement that smoking was harmful; even among smokers, 80 per cent agreed.²⁹ Most people including health professionals, also agree that those who function as role models — teachers, nurses, doctors, dentists, and others — should set a good example by not smoking cigarettes.^{29, 32, 33} This sense of professional responsibility has become sufficiently strong that at least one instance in which a physician was fired by his health agency employer for smoking in public has been reported.³⁴

National Trends of Smoking Prevalence Among Health Professionals. The proportion of current smokers among physicians, dentists, and pharmacists is much lower than that of the general adult population and has decreased substantially since 1967-68.³³ The reverse, however, is true of nurses. An equal proportion of adult males and a smaller amount of adult females smoke than nurses. Furthermore, between 1969 and 1975 the proportion of nurses who smoke increased. Analysis shows that the increase is age related. The proportion of nurses under 40 years of age who smoked cigarettes declined from 39 to 34 per cent while the proportion of those forty and over who smoke increased from 35 to 42 per cent.³⁵

Nurses are also smoking more heavily now than they were six years ago. Of nurses who smoke, 16 per cent smoked 25 or more cigarettes per day in 1975 compared to only 12 per cent who smoked this much in 1969.³⁵ On the other hand, nurses smoke less heavily than other health professionals. Twenty-nine per cent of physicians, 27 per cent of dentists, and

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32 per cent of pharmacists who smoke consumed 25 or more cigarettes per day in 1975. Except for pharmacists these proportions represent decreases from 1967.³⁵ Therefore, with the possible exception of older nurses, the association between cigarette smoking and disease as well as the importance of setting a professional example is being taken more seriously.

Trends of Smoking Prevalence Among Rhode Island Health Professionals. Between 1963 and 1973 the proportion of Rhode Island physicians who smoke cigarettes has decreased from 33 per cent to 19 per cent.³⁶ The current prevalence is slightly below the national proportion of physicians who smoke (21 per cent) and far below the proportion of smokers in both the adult United States population (34 per cent) and the adult population of Rhode Island (39 per cent).

Separating physicians by specialty field (analysis by sex was not conducted since 93 per cent of Rhode Island physicians are male) reveals two specific relationships. First, the proportion of cigarette smokers varies substantially by specialty from 28.6 per cent among obstetricians and gynecologists to 11.1 per cent for internists. Secondly, interesting results were produced by separating specialists into two groups — those among whose patients smoking related disease was assumed to be common (allergists, cardiologists, and radiologists) and all other specialists. Only 16 per cent of the former smoked compared to 27 per cent of the latter.

In order to produce a comparison group which was similar to physicians in socioeconomic and educational status, Rhode Island lawyers were also questioned. Only 25 per cent of Rhode Island lawyers are cigarette smokers — a rate which is roughly comparable to United States health professionals.³⁶ Medical education may explain part of physicians' low smoking rates, but cannot explain that of lawyers or of differences between medical fields. Burgess *et al* conclude that education in general, parental influence, medical advice, peer influence, professional education, and role models must be taken into account in an explanation of these results.

Studies conducted at Brown University,³⁷ the University of Wisconsin,³⁸ and Mount Sinai medical schools³⁹ show that smaller pro-

portions of first year students smoke cigarettes (7.7 per cent, 8.6 per cent and 4 per cent) compared to fourth-year students (9 per cent, 12.3 per cent, and 24 per cent). If medical education alone exerted an overwhelming influence on smoking behavior, one would expect lower proportions of smokers among the more senior students. That the opposite is true suggests that those anti-smoking forces and their correlates which act upon the student prior to medical school are most important. More conclusive answers await a prospective study of these students.

Dynamics of Smoking Behavior

Never, Current, and Former Smokers: United States and Rhode Island. As previously observed, the proportion of male adult smokers in the United States has been decreasing since 1955. For females the proportion of smokers has been decreasing since 1965, so that in 1975 female smoking prevalence is nearly equal to that of 1955. The rate of Rhode Island adult male and female smoking exceeds national prevalence. While these data are informative, more important are the trends among former and never smokers.

In Table 2 are shown the proportions by sex of current, former, and never smokers and the corresponding "quit rate"⁴⁰ in two national surveys^{29,30} and one Rhode Island survey.²⁸ In all cases the proportion of male never smokers has remained constant between 1955 and 1975. The decrease in the proportion of current smokers among males, therefore, seems to be due to quitting, indicated by the "quit rate" which increased nationally from 0.16 in 1955 to 0.43 in 1975. The adult male "quit rate" in Rhode Island is currently 0.37.

For females the process appears to be more complex. Between 1955 and 1975 the proportion of American females who have never smoked has steadily decreased. On the other hand, since 1955 the proportion of former female smokers has increased substantially. The "quit rate" among American females in 1975 is more than three times the 1955 rate. Among Rhode Island females in 1976 the "quit rate" was nearly as high as their national counterparts.

These findings may be interpreted to mean that the overall proportion of adult female

smokers is gradually decreasing because, though ever larger proportions try smoking, the results are being offset by correspondingly larger proportions who quit. The end result, however, is that more and more females are being exposed to the harmful effects of smoking.

Table 2: Percentage of Adults Who Are Current, Former, or Never Smokers, by Sex, Showing Quit Rate: United States 1955, 1966, 1975; Rhode Island 1976.

Sex, Location and Year	Smoking Status			Quit Rate*
	Current	Former	Never Smoked	
<i>United States</i>				
1955 Male	56.9	11.1	32.1	.16
Female	28.4	4.0	67.6	.12
1966 Male	50.7	18.2	31.1	.26
Female	32.9	6.8	60.3	.17
1975 Male	39.3	29.1	31.5	.43
Female	28.9	14.5	56.6	.33
<i>Rhode Island</i>				
1976 Male	42.8	25.3	31.1	.37
Female	39.6	16.0	44.4	.29

*Quit rate = $\frac{\text{former smokers}}{\text{current} + \text{former smokers}}$

Source: United States 1955, 1966 — NCHS "Changes in Cigarette Smoking Habits between 1955 and 1966," *Vital and Health Statistics*, 10:59, Tables 3 and 4 pp. 18-19, 1970 (age 18 and over).

United States 1975 — United States Public Health Service, *Adult Use of Tobacco*, 1975 (age 21 and over).

Rhode Island 1976 — Rhode Island Health Services Research, SEARCH, "Health Habits Survey," 1977 (over age 15).

Smoking Dynamics and Risk of Lung Cancer. Without more specific information on the amount and duration of cigarette smoking, the type of cigarette used (tar-nicotine content, filter-non-filter) and whether or not the smoke is inhaled, it is impossible to assess adequately the deleterious effects of this pattern of smoking behavior — especially among females. Fortunately, studies have shown that the risk of smoking-induced disease — especially lung cancer — decreases with the

time since subjects last smoked. Hammond's analysis of the massive American Cancer Society Survey¹⁶ shows that the age standardized lung cancer death rates for male ex-smokers between ages 50 and 69 who smoked more than a pack a day declined from 283 after one year to 29 after ten years. The latter rate compares favorably with the rate for males who never smoked — 16 per 100,000. Since we have no reason to believe that the effects of quitting should be any different for women (all other things equal), the increasing proportion who try cigarette smoking but soon quit should have minimal long-run effects upon the rate of lung cancer among women.

Smoking Dynamics and Health Professionals. The striking decline in the proportion of physicians, dentists and pharmacists who smoke is due, in part, to an extraordinarily high quit rate. In 1975, the national quit rates for these groups were physicians — 0.64, dentists — 0.61 and pharmacists — 0.55.³³ The national quit rate for nurses is 0.36 — which is higher than that of adult females (0.34) and working women (0.30) but still below that of males (0.43) and male health professionals.

The increase in smoking prevalence among nurses is due in part to a slight decrease in the quit rate (from 0.37 in 1964 to 0.36 in 1975).³⁵ Apparently, otherwise successful quitting techniques have been either unattractive or unsuccessful among nurses.⁴²

Conclusions

The nationwide effort to reduce the proportion of cigarette smokers has been quite successful. Although we lack conclusive longitudinal data, one suspects that even in Rhode Island the proportion of adult smokers has declined although still exceeding the national prevalence rate. This should mean that we shall see a comparable decline in the mortality rate from lung cancer and other associated diseases in years to come.

In Rhode Island the smoking message is being heard.³¹ The Rhode Island Department of Health's Cancer Control Program is organizing and focusing the efforts of several community agencies which provide smoking prevention and cessation services. Of these agencies the Interagency Council on Smoking and

the American Cancer Society, Rhode Island Division are the most experienced, and as a result are excellent (and willing) sources of information and materials. Each agency offers Quit Smoking Programs at a nominal cost to individuals, businesses, schools, health agencies, and private organizations throughout the state. Their "Quit Smoking Kits", which contain information and techniques for the individual who wants to stop smoking or the "Help Quit Kits" for the physician who wants to help his patients to quit, are available free of charge.

To reduce the harmful effects of cigarette smoking in the future the Interagency Council and the Cancer Society are conducting a School-Based Smoking Prevention Project which offers enriched smoking and health curriculum materials (Kindergarten through Grade 12) and teacher orientation at no cost to public schools. In addition, the Interagency Council has established a highly successful Youth Council on Smoking, which is available to teenagers who want to help grade school pupils avoid the smoking habit.

Because of the diversity of its member agencies, the Interagency Council has information and materials on other smoking-related diseases. Through the membership of the Rhode Island Medical Society excellent professional resources are also available.

The American Cancer Society provides information and counseling about any aspect of cancer through the toll-free Cancer Information Service. Telephone consultation and state-wide referral services are also available to health professionals who call.

Tel-Med, a general health information service sponsored by the Rhode Island Department of Health, the Rhode Island Medical Society, and Blue Cross-Blue Shield of Rhode Island has taped messages on smoking and health, quitting, and cancer (in addition to other subjects) in its library. Callers desiring further assistance may talk with a trained counselor.

Other sources of information and assistance include: the National Clearinghouse on Smoking and Health (Atlanta, Georgia) and the National Cancer Institute (Bethesda, Maryland). Private, profitmaking programs can be found under "Smokers Information" in the *Yellow Pages*.

Nevertheless, smoking remains a serious health problem. Statistics have a way of hiding individual tragedy. An estimated lung cancer mortality rate of 40 per 100,000 does not have the same impact as saying that in 1978 one person died of lung cancer in Rhode Island each day.⁴⁰ At what point such a rate becomes "acceptable", even when the disease is largely preventable, remains an issue to be defined by health professionals, health agencies, and other representatives of the public.

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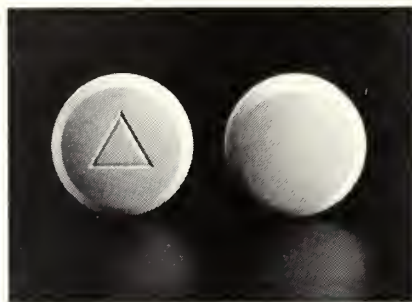
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Examining a Few Myths About Prescribing.

Increasing pressure is being put on the practicing physician to prescribe drugs generically. You are told that brand-name products are universally "expensive" and generic versions are relatively "cheap." To make this case, the most extreme (rather than typical) price differentials are cited. Thus, consumers are led to believe that such differentials are commonplace. Even your knowledge and your motives as a physician are questioned.

Understandably, these views have created myths. We think it's time to examine them in the light of all the facts and ramifications.



MYTH: There are no differences in quality and performance between brand-name products and their generic counterparts. The corollary is that there are no differences among products made by high-technology, quality-conscious, research-based companies and those made by commodity-type suppliers.

FACT: The Food and Drug Administration does a good job in monitoring a generally excellent drug supply. Still, it has nowhere near the resources to guarantee the quality and bioavailability of all marketed products at any given time. Just a few months ago, for example, it noted that batches of tetracycline HCl capsules which met official monograph requirements were

not bioequivalent to a reference product. As you know, there is substantial literature on this subject affecting many drugs, including such antibiotics as tetracycline and erythromycin. The record on drug recalls and court actions affirms strongly that there are differences among pharmaceutical companies and their products. Research-intensive companies have far better records than those that do no research and may practice minimum quality assurance.

MYTH: Industry favors only "expensive" brand names and denigrates generics.

FACT: PMA companies make 90 to 95 percent of the drug supply, including, therefore, most of the generics. Drug nomenclature is not the important point; it's the competence of the manufacturer and the integrity of the product that count.

Matters.

H: Generic options always exist.

F: About 55 percent of prescription drug expenditure is for single-source drugs. This means, of course, that for 45 percent of such expenditure, is a generic prescribing option available?

H: Generic prescriptions are filled with expensive generics, thus saving consumers large amounts of money.

F: Market data show that you invariably prescribe—and pharmacies dispense—both brand and generically equivalent products from the same firm and trusted sources, in the best interests of patients. In most cases the patient receives the same brand product. Savings from voluntary substitution of generic prescribing are grossly exaggerated.

MYTH: Drugs account for a major portion of the rise in health care costs.

FACT: Drugs represent a very small part of such costs. The amount of the health care dollar spent for prescription drugs was about 12 cents in 1967; today it is about 8 cents. And you as a physician are most conscious of how drug therapy can cut hospitalization, avert surgery, reduce office visits and keep patients on the job.

MYTH: Government intrusions into the marketplace will save tax money.

FACT: Government schemes always cost the taxpayer something, and the costs often exceed the benefits. Certainly, any federal “help,” such as lists of wholesale drug prices sent to all physicians and pharmacists, will be no exception. Just think of the expense of keeping them current! Moreover, wholesale prices are poor guides to actual transaction prices and even worse guides to retail prices.

The PMA Position

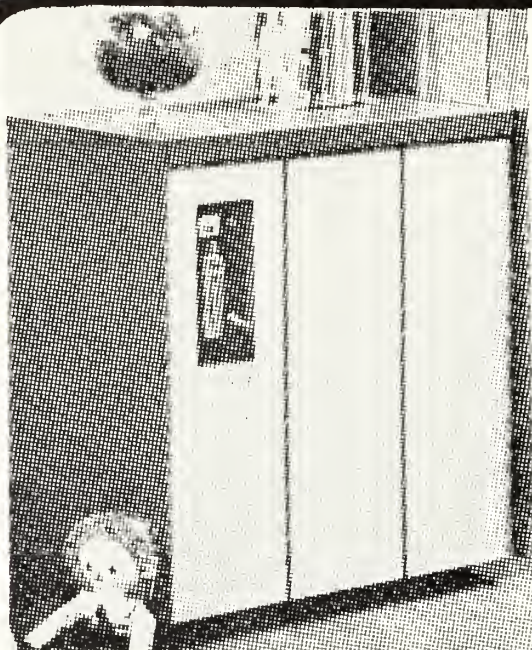
We believe your freedom to prescribe, either by generic or brand name, should be totally unabridged. Otherwise, your prescribing prerogatives and your relationships with patients will be seriously impaired.

The maker does matter

After the myths about price and equivalency have been shattered, one fact stands out more clearly than ever: *The maker does matter.* As always, your best guide to drug therapy for your patients is to select products—both brands and generics—from manufacturers with credentials and performance records you have come to respect.



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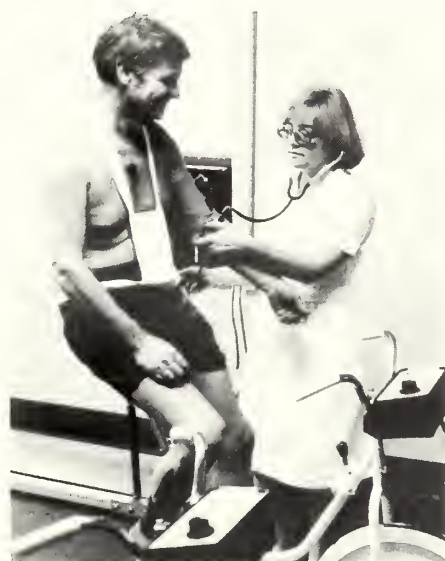
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The Rhode Island Diabetes Intervention Program

Program Will Be Comprised Of The Diabetic Coma Project, The Pregnancy Project, And The Juvenile Project

By Gerald A. Faich, MD
Susan Ellis, MA
James S. Belloni, BA
Howard A. Fishbein, DPH

Over the past year an in-depth assessment of diabetes was conducted by the Division of Epidemiology in collaboration with the Rhode Island Health Services Research, Inc (SEARCH) and a newly formed Diabetes Council. This assessment attempted to define the current status of the diabetic and diabetic care resources in Rhode Island. Additionally, several intervention projects were developed to begin in late 1978; three of

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these interventions will be described in the present communication.

There is little question that diabetes is a disease of major importance and impact. The prevalence of diagnosed diabetes in Rhode Island is only 2.3 per cent, yet diabetes is the sixth leading cause of death in the state. Diabetics have a hospital utilization rate four times that of non-diabetics. The average diabetic in the state suffers 25 days of bed disability versus only eight days annually for the non-diabetics; fifteen per cent of the state's blind population are diabetics.

In spite of its importance there are many gaps in what is known about diabetes in Rhode Island. Definitional problems confuse and confound statistical data; for example, no precise incidence or prevalence data based on insulin status are available. Without such data resource planning is nearly impossible. Similarly, little is known about patient compliance, disease awareness, and provider utilization. To address these questions the diabetic coma and juvenile projects described below were developed.

The major criterion used to develop these projects was that such projects should lead to measurable change in disease outcomes. One

area where such change could occur is that of gestational diabetes. A sufficient amount is already known about the adverse effects of diabetes during pregnancy on fetal outcomes to merit the initiation of a direct intervention.

Diabetic Ketoacidosis and Coma Project

In programmatic terms reduction of diabetic coma and diabetic ketoacidosis (DKA) incidence may be one of the few objective short-term outcome measures available for the evaluation of intervention activity. Most diabetic outcomes, such as ischemic heart disease and blindness, are the result of years of vascular deterioration. Controversy about the impact of diabetic treatment (e.g. glucose control) on such long-term outcomes has raged for years.¹ Only elaborate expensive longitudinal projects can use the frequency of late complications for evaluation.

There were 242 episodes of diabetic coma in Rhode Island in 1976. Of these 187 were recorded for adult-onset diabetics and 55 were for juvenile-onset diabetics. Socioeconomic distribution shows higher coma rates in lower socioeconomic classes. Age data show increasing rates with increasing age for adult-onset diabetics. The coma rate in females is twice that in males. Case fatality for coma is 5 per cent, largely in the older age groups. Analysis of the percentage of all diabetic admissions associated with coma shows that there is a tremendous variation from 3.5 per cent to 24 per cent from one Rhode Island hospital to another.

The detailed epidemiology of DKA and coma is important for several reasons. Knowledge of geographic distribution, the characteristics of those affected, and antecedent care may point to needed interventions. For example, inordinately high coma rates for a given geographic area might suggest the need for focused outreach efforts and increased accessibility to health care in such an area. While DKA and coma sometimes are inevitable and unavoidable, several studies have shown that their frequency can be dramatically reduced with intensive patient education and improved accessibility to care.²⁻⁴

The purpose of the coma project is to describe the epidemiology of diabetic keto-

acidosis and coma occurring in Rhode Island over a one year period of time. Emphasis will be placed on precipitating events and antecedent health care. The study will be done prospectively with visits made to each hospital in the state on a weekly basis to detect cases. For each detected case information will be obtained from the patient's chart and physician.

This project and all other proposed interventions will safeguard patient confidentiality at all times. No data will be released except in aggregated form in compliance with Rhode Island Department of Health policy and state law. It is anticipated that knowledge of the epidemiology and antecedents of coma will allow for the development of focused intervention measures to reduce the incidence of coma in the future.

Diabetes in Pregnancy Project

Diabetes is associated with 1 to 3 per cent of pregnancies and adversely affects the newborn. A small proportion of diabetic pregnancies (2 per 1,000) occur in women who were recognized as insulin-dependent diabetics prior to their pregnancy. A much larger fraction of diabetes in pregnancy (20 or more per thousand) occurs in women who often are not recognized as diabetics because the disease develops subclinically (and transiently) during pregnancy.⁵⁻⁷ Persons in this latter group have been labeled gestational diabetics for purposes of this project. It is estimated that there are about 200 such pregnancies per year in Rhode Island. Gestational diabetes is important because it is associated with increased fetal loss, respiratory distress syndrome, hypoglycemia, and other problems of the newborn. Since these adverse fetal effects can be diminished by early diagnosis and careful management, the detection of the gestational diabetic is of crucial importance.

The goal of the pregnancy project is the improvement of fetal outcomes of gestational diabetic pregnancies. To accomplish this, attention must be paid to three elements: (1) diagnosis, (2) specialized prenatal management including planning for delivery, and (3) specialized neonatal care. The project aims at insuring that diabetes screening and glucose tolerance testing is done for 90 per cent of high risk pregnancies in the state. A high risk

pregnancy relative to diabetes is one in which the pregnant woman is obese, or has a history of a large baby or stillborn, or has a family history of diabetes or has glycosuria.

To increase the frequency of the diagnosis of gestational diabetes a series of conferences will be held at hospitals around the state. Obstetricians will be encouraged to screen high risk women by glucose blood testing done in the fasting state and following a glucose load. State sponsored glucose tolerance testing laboratories based at several hospitals around the state will then offer free glucose tolerance testing for referred pregnant women found to be positive on the screen. Once diabetes is confirmed on glucose tolerance testing, the patient's obstetrician will be contacted and provided with general management guidelines and a list of available diabetes consultants. Consultation will include advice on nutrition, diet, assessment of fetal lung maturity and appropriate timing and location of delivery.

Juvenile Diabetes Project

The purpose of this project is to identify juvenile-onset diabetics (JOD) in order to describe the epidemiology of the disease, patterns of care utilization, and disease complications. Several characteristics of JOD make it of special interest and importance. JOD occurs earlier in life than adult-onset diabetes and almost always is associated with the need for insulin. It is associated with greater shortening of life span, more blindness and other disease complications, and greater care costs than adult-onset diabetes.⁸

Remarkably, good estimates of JOD prevalence and incidence are relatively lacking. National health interview survey data suggest that the prevalence of JOD under the age of 30 in Rhode Island is about 2,000 cases with an annual incidence of 150-250 cases.⁹ Some authorities feel that the incidence of JOD may be increasing.¹⁰ Numerous studies have demonstrated a seasonal variation in the incidence of JOD with September and December peaks.¹¹ This may suggest that an external environmental agent, perhaps viral, may play an etiologic role in the disease.

Quantitative information on the frequency of JOD's and their care utilization in Rhode Island is critical for health planning purposes.

The availability of nutritional counseling, psychological referral channels, and other ancillary services to those affected is not known. The Juvenile Diabetes Project will attempt to locate all newly diagnosed cases of juvenile diabetes in the state by hospital visits and physician reports. Each juvenile diabetic so identified will be invited to join a voluntary case file which will be used in the future to disseminate information.

Summary

The Rhode Island Diabetes Intervention Program, after a one year planning period, has assessed the diabetic situation in the state and has developed several interventions that will begin during the spring of 1979. Three of these interventions are described in this paper. The Diabetic Coma Project seeks to determine the pattern of coma occurrence in the state and will attempt to describe its antecedents in order to plan appropriate preventive measures. The Pregnancy Project seeks to improve the outcome of diabetic pregnancies through early detection and specialized management of such pregnancies. The Juvenile Project will identify juvenile diabetics to aid in future health planning and in the dissemination of education material to such diabetics. It is hoped that these interventions will lay the ground work for other programs to improve the health status and care of the diabetic in Rhode Island.

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WARNINGS: If tolerance develops, the recommended dose should not be exceeded in an attempt to increase the effect; rather, the drug should be discontinued. Tenuate may impair the ability of the patient to engage in potentially hazardous activities such as operating machinery or driving a motor vehicle; the patient should therefore be cautioned accordingly. **Drug Dependence:** Tenuate has some chemical and pharmacologic similarities to the amphetamines and other related stimulant drugs that have been extensively abused. There have been reports of subjects becoming psychologically dependent on diethylpropion. The possibility of abuse should be kept in mind when evaluating the desirability of including a drug as part of a weight reduction program. Abuse of amphetamines and related drugs may be associated with varying degrees of psychologic dependence and social dysfunction which, in the case of certain drugs, may be severe. There are reports of patients who have increased the dosage to many times that recommended. Abrupt cessation following prolonged high dosage administration results in extreme fatigue and mental depression; changes are also noted on the sleep EEG. Manifestations of chronic intoxication with anorectic drugs include severe dermatoses, marked insomnia, irritability, hyperactivity, and personality changes. The most severe manifestation of chronic intoxication is psychosis, often clinically indistinguishable from schizophrenia. **Use in Pregnancy:** Although rat and human reproductive studies have not indicated adverse effects, the use of Tenuate by women who are pregnant or may become pregnant requires that the potential benefits be weighed against the potential risks. **Use in Children:** Tenuate is not recommended for use in children under 12 years of age.

PRECAUTIONS: Caution is to be exercised in prescribing Tenuate for patients with hypertension or with symptomatic cardiovascular disease, including arrhythmias. Tenuate should not be administered to patients with severe hypertension. Insulin requirements in diabetes mellitus may be altered in association with the use of Tenuate and the concomitant dietary regimen. Tenuate may decrease the hypotensive effect of guanethidine. The least amount feasible should be prescribed or dispensed at one time in order to minimize the possibility of overdosage. Reports suggest that Tenuate may increase convulsions in some epileptics. Therefore, epileptics receiving Tenuate should be carefully monitored. Titration of dose or discontinuance of Tenuate may be necessary.

ADVERSE REACTIONS: **Cardiovascular:** Palpitation, tachycardia, elevation of blood pressure, precordial pain, arrhythmia. One published report described T-wave changes in the ECG of a healthy young male after ingestion of diethylpropion hydrochloride. **Central Nervous System:** Overstimulation, nervousness, restlessness, dizziness, jitteriness, insomnia, anxiety, euphoria, depression, dysphoria, tremor, dyskinesia, mydriasis, drowsiness, malaise, headache, rarely psychotic episodes at recommended doses. In a few epileptics an increase in convulsive episodes has been reported. **Gastrointestinal:** Dryness of the mouth, unpleasant taste, nausea, vomiting, abdominal discomfort, diarrhea, constipation, other gastrointestinal disturbances. **Allergic:** Urticaria, rash, ecchymosis, erythema. **Endocrine:** Impotence, changes in libido, gynecomastia, menstrual upset. **Hematopoietic System:** Bone marrow depression, agranulocytosis, leukopenia. **Miscellaneous:** A variety of miscellaneous adverse reactions has been reported by physicians. These include complaints such as dyspnea, hair loss, muscle pain, dysuria, increased sweating, and polyuria.

DOSE AND ADMINISTRATION: Tenuate (diethylpropion hydrochloride) One 25 mg tablet three times daily, one hour before meals, and in mid-evening if desired to overcome night hunger. Tenuate Dospan (diethylpropion hydrochloride) controlled-release. One 75 mg tablet daily, swallowed whole, in mid-morning. Tenuate is not recommended for use in children under 12 years of age.

OVERDOSAGE: Manifestations of acute overdosage include restlessness, tremor, hyperreflexia, rapid respiration, confusion, assaultiveness, hallucinations, panic states. Fatigue and depression usually follow the central stimulation. Cardiovascular effects include arrhythmias, hypertension or hypotension and circulatory collapse. Gastrointestinal symptoms include nausea, vomiting, diarrhea, and abdominal cramps. Overdose of pharmacologically similar compounds has resulted in fatal poisoning, usually terminating in convulsions and coma. Management of acute Tenuate intoxication is largely symptomatic and includes lavage and sedation with a barbiturate. Experience with hemodialysis or peritoneal dialysis is inadequate to permit recommendation in this regard. Intravenous phenolamine (Regitine[®]) has been suggested on pharmacologic grounds for possible acute, severe hypertension, if this complicates Tenuate overdosage.

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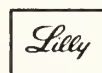
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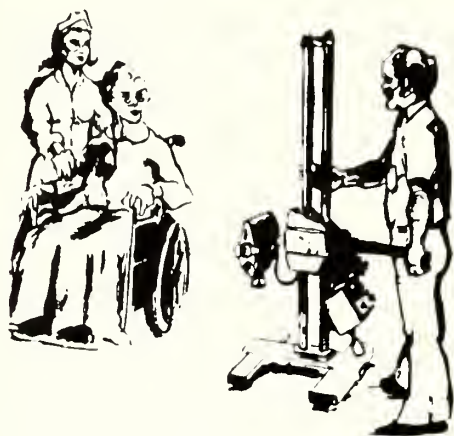
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Reports of the House of Delegates

Minutes: Meeting February 7, 1979

A meeting of the House of Delegates of the Rhode Island Medical Society was held on Wednesday, February 7, 1979 in the auditorium of the Rhode Island Medical Society.

The meeting was called to order by the Speaker of the House, Dr. Leonard S. Staudinger, MD at 2:10 pm.

(A listing of Members Present and Members Absent can be obtained from the Executive Office upon request.)

Approval of the Minutes of the Previous Meeting

The Speaker noted that the minutes of the October 18, 1978 meeting of the House had been printed and distributed by the Secretary.

Action: A motion was made, seconded and voted that the minutes of the October 18, 1978 meeting of the House of Delegates be approved and placed on record.

Report of the Secretary Melvin D. Hoffman, MD

The Speaker noted that the Report of the Secretary was included in the Handbook and called for a discussion of any items appearing therein.

18) JUA Developments

Dr. Joseph E. Caruolo, Atty. Edward F. Hindle and Dr. Kenneth E. Liffmann apprised the House of the current status of the JUA's request for a rate increase. The chronology appearing in the handbook aptly summarizes the situation from its beginning to date.

Beyond this point the House was informed that a pre-hearing conference between JUA representatives and the Society's attorney and actuary has been scheduled for Monday, March 5, 1979.

Action: A motion was made, seconded and approved with respect to the action of the

President in engaging legal counsel and a qualified actuary to represent the best interests of the Society relative to the proposed JUA rate increase.

Action: A motion was made, seconded and voted that the Report of the Secretary be approved and placed on file.

Report of the Treasurer Melvyn M. Gelch, MD

The Secretary reported that the Report of the Treasurer was included in the handbook.

In the absence of the Treasurer, Dr. Melvyn M. Gelch, Dr. Herbert F. Hager agreed to review the report and answer any questions. Dr. Hager reported improvement in the Society's financial position, indicating that the year 1978 ended with a surplus. Caution was advised, however, in the matter of spending because of the continued inflationary spiral.

A question was raised relative to the amount of income earned in 1978 on a portfolio with an estimated market value of \$140,897. It appears to be a small percentage of the total monies invested. The House was advised that the matter would be referred to the Treasurer for an explanation.

Action: A motion was made, seconded and voted that the Report of the Treasurer, as submitted, be approved and placed on file subject to audit.

Recommendations from the Council Melvin D. Hoffman, MD

1) Spring Meeting of the House

Action: A motion was made, seconded and voted that the next meeting of the House of Delegates will be held on Wednesday, March 21, 1979 at 2 pm in the auditorium and that adjournment will take place in time for the Blue Shield meeting at 5 pm in the Blue Cross Building.

2) *Blue Shield Directors*

Action: A motion was made, seconded and voted that Drs. Joseph E. Caruolo, Herbert F. Hager, William J. MacDonald and John J. Walsh be renominated for three-year terms as members of the Blue Shield Board of Directors, and that Dr. Richard R. Dyer be nominated to fill the unexpired term of Dr. H. Gerald Rock, who has resigned.

3) *Nominees for the Blue Shield Professional Advisory Committee*

Action: A motion was made, seconded and voted that Drs. J. Robert Bowen, and John P. Grady be reelected to the Professional Advisory Committee of Blue Shield, and that Dr. Daniel Moore, Jr. be elected to this same committee.

Action: A motion was made, seconded and voted that all physician members of the Blue Shield Board of Directors and the Professional Advisory Committee of Blue Shield who are members of the Rhode Island Medical Society be placed on the mailing list of House of Delegates meetings and urged to attend such meetings.

4) *The Rhode Island Medical Journal*

Action: A motion was made, seconded and voted that an exceptional resident and/or medical student be nominated to serve on the Editorial Board of the *Rhode Island Medical Journal* and that the names of such nominees be submitted to the President for approval prior to such nomination, and further that monthly copyrighting of the Journal be discontinued as a needless expense.

5) *Plaques for Physician's Offices*

Action: A motion was made, seconded and voted that the plaque for physician's offices, as amended, be prepared on bond paper and presented to all physician members, strongly urging that such plaque be displayed.

7) *Bylaws Changes*

Action: A motion was made, seconded and voted that the Delegate and Alternate Delegate to the AMA House of Delegates become non-voting members of the Council.

Action: A motion was made, seconded and voted that the format of the Society's Bylaws be revised by staff to conform to the system employed by the AMA with reference to sections and subsections.

Due to lack of a quorum no format action could be taken on the recommendation that

Article III — Membership of the Bylaws be adopted as changed to permit the admission of various categories of members within the health care field.

8) *Specialty Societies*

A discussion was held relative to the criteria developed by the Committee on Specialty Societies. This criteria would apply with respect to the admission of new Specialty Societies seeking recognition and representation in the House of Delegates of the Rhode Island Medical Society.

Due to a lack of quorum no formal action could be taken on its adoption.

Committee Reports

The Speaker noted that the Committee reports contained in the handbook were for informational purposes only and did not require any specific action by the House.

Action: A motion was made, seconded and voted that the written reports of the following committees, as submitted to the House, be received and placed on record: Mental Health Committee, Scientific Work and Annual Meeting Committee, Committee on the Medical Aspect of Sports, Committee on Alcoholism and the Maternal Health Committee.

Dr. Lewis Arnow, Chairman of the Committee on Continuing Medical Education, gave an oral report to the House, noting that thirteen (13) of the twenty (20) hospitals in the state have been accredited. The calendar of programs sponsored jointly by the Rhode Island Medical Society and Brown University has received excellent cooperation from the hospitals and is much appreciated by the physicians. Dr. Arnow emphasized the importance of CME stressing not only its value in affording physicians opportunities to keep up to date in the profession, but, also, its' public relations effect in the community becoming aware of this voluntary commitment by the physicians.

Resolution

The following action was taken with respect to a resolution presented by Dr. Erminio Cardì:

Action: A motion was made, seconded and voted that the resolution, as amended, be adopted.

The amended resolution follows:

"The Executive Committee of the Providence Medical Association, as spokesman for its more than 800 physician members, has passed a resolution requesting a more formal reassessment of the medical malpractice issue in this State.

In my capacity, as a delegate to this Society from the Providence Medical Association, I move that the Rhode Island Medical Society engage a qualified, independent consulting firm to: review the JUA experience to date."

Miscellaneous Business

1) *Blue Shield and Medicare*

Questions were posed with respect to:

- a) reimbursement to pediatricians who attend the birth of a newborn,
- b) Blue Shield's involvement with the processing of CHAMPUS claims for New York and the New England states,
- c) a charge that the rules governing Medicare reimbursement are formulated by non-physicians.

Dr. William A. MacDonald explained:

- a) that under a pilot program, now in effect, pediatricians are reimbursed if they are, in fact, in attendance at the delivery of a newborn, except such reimbursement is not made in those cases at which a resident is in attendance;
- b) how CHAMPUS works, which was followed by discussion relative to Rhode Island Blue Shield's involvement with CHAMPUS (Blue Shield is the servicing agent for Rhode Island, New York and New Jersey CHAMPUS claims), and feeling was expressed that Blue Shield's expansion into other lines of business was detrimental to participating physicians, resulting in lower reimbursement and imposing undue risk to subscribers;
- c) that the rules and procedures involved in any Medicare case are Federal rules and Blue Cross/Blue Shield, as the Medicare carrier, is mandated to review and investigate Medicare cases in accordance with these rules and regulations.

Action: A motion was made, seconded and voted that at the next House meeting, Dr. William J. MacDonald would render a full report with respect to these Medicare rules and regulations and the available mechanisms and procedures for defending oneself in such cases.

2) *New Prescription Forms*

The House discussed the new duplicate prescription forms, issued to each physician for use when prescribing Schedule II drugs. Reference was made to two identical letters signed in both cases by a number of physicians, voicing four major objections to use of these forms. The objections were:

- a) the letters "CMD" following the physician's names are puzzling and uninterpretable to physicians and patients.
- b) the DEA number is not preprinted on the forms,
- c) there is no provision to have these forms available in the hospitals, and thus the physician must carry them on his person,
- d) the risks of carrying these is formidable.

Staff was requested to review the above with Mr. Charles Hachadorian, Jr., Drug Control Administrator, Department of Health to determine whether any of the above objections might be alleviated.

There being no further business the meeting was adjourned at 4:30 pm.

Respectfully submitted,
Melvin D. Hoffman, MD
Secretary

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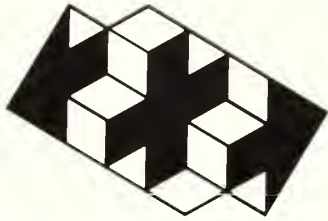
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Minutes: Meeting March 21, 1979

A meeting of the House of Delegates of the Rhode Island Medical Society was held on Wednesday, March 21, 1979 in the auditorium of the Rhode Island Medical Society.

The meeting was called to order by the Speaker of the House, Dr. Leonard S. Staudinger at 2:10 pm.

(A listing of Members Present and Members Absent can be obtained from the Executive Office upon request.)

Approval of the Minutes of the Previous Meeting

The Speaker noted that the minutes of the February 7, 1979 meeting of the House had been printed and distributed by the Secretary.

The following corrections to the minutes of the meeting of February 7, 1979 are:

a) Dr. Cardi's resolution as reported in the minutes is incorrectly stated. The Handbook for the March 21, 1979 meeting contains the correct resolution.

b) At the February 7, 1979 meeting, Dr. MacDonald agreed to respond to Dr. Cunningham's complaint relative to the procedures employed by Blue Shield with respect to Medicare hearings, and Blue Shield's involvement financially with the handling of CHAMPUS claims.

c) At the February 7, 1979 meeting the following actions were voted: that the Delegate and Alternate Delegate to the AMA House of Delegates become non-voting members of the Council and that the Society's Bylaws be revised by staff to conform to the decimalized system employed by the AMA with reference to sections and sub-sections. The corrected motions are contained in the Handbook for this meeting.

d) The year-end financial report shows the interest return for the year with respect to all funds.

Action: A motion was made, seconded and voted that the minutes of the February 7, 1979 meeting, as corrected, be approved and placed on record.

Report of the Secretary

1) *The Providence Group*

Mr. Robert Hall and Mr. Robert Washburn, representing the Providence Group reported on the management of the Society's funds, noting that there are three aspects of the investment program.

- a) the General or Checking Account
- b) the Blue Cross/Blue Shield Account
- c) the Pooled Funds

All accounts showed a substantial increase in interest under the Group's management.

Exception was taken by some members to the investment of their Blue Cross/Blue Shield premiums (paid annually) resulting in substantial interest accruing to the Society. It was noted that there is an administrative cost sustained by the Society in processing bills, recording payments, changing types of coverages and preparing reporting statements which accompany the payment to Blue Shield. Members are not, it was reported, obligated to pay an annual premium. A quarterly payment is acceptable.

Action: A motion was made, seconded and voted that staff make an in-depth study of the costs of administering the Blue Cross/Blue Shield group and submit a report at the next House meeting.

2) *Unfinished Business*

Bylaws Changes

Action: A motion was made, seconded and voted that:

a) Article III — Membership — be amended by substitution in its entirety by the attached substitute Article III. (contained in the Handbook for this meeting).

b) Article IV — Component Societies — Section 4(b), be amended to read:

"A component society may admit to active membership, only such members as shall meet the qualifications, as stated in Article III, and reside or practice in the territorial jurisdiction of the Society, except as the rules and regulations of this Society may otherwise provide."

c) that Article VI — House of Delegates — Section 2, be amended to read:

"The House of Delegates shall be composed of (1) delegates elected . . . etc., and (2) The President . . . etc., and (3) without the power to vote . . . of the President of the Society, and an official representative, who is an active member of the Rhode Island Medical Society, named by each organized specialty or affiliated group that has been recommended by the Council and recognized by the House of Delegates."

It should be recorded that one negative vote was cast.

Specialty Society Recognition and Presentation

Action: A motion was made, seconded and voted approving the criteria developed for the recognition and representation of newly formed Specialty Societies by the Rhode Island Medical Society. (Copy contained in Handbook for this meeting.)

Medicare Procedures Relative to Hearings

In response to a complaint presented by Dr. John J. Cunningham at the last meeting of the House, Dr. William J. MacDonald, Chairman of Blue Shield advised he would report back to the House at this meeting relative to these procedures.

Dr. MacDonald stated that Rhode Island Blue Shield is the intermediary for Medicare in this area, and as such, is obligated to follow the rules and regulations formulated by HEW in all Medicare matters. The guidelines established by HEW for the conduct of hearings, upon receipt, were reviewed by a committee of physicians from the Society and approved. One of the regulations states that every Medicare patient must have noted on his or her chart or in the progress notes something to indicate that the attending doctor has seen the patient. A further regulation states that decisions in the hearings will be made by an appeal panel without a physician member.

With respect to Blue Shield's financial involvement in the handling of CHAMPUS claims, there is none. Blue Cross entered into competitive bidding to attain this business, and at no time have Blue Shield funds become involved in the operation.

3) The Joint Underwriting Authority

Dr. Joseph E. Caruolo apprised the House of the current positions of the Society and the

JUA relative to the JUA's request for a 34.1% rate increase, noting that a prehearing conference was held at the DBR on March 5, 1979. This was an informal meeting of Society and JUA representatives with the Deputy Commissioner, Edward F. Balfour and representatives of the Attorney General's office. James Durkin, the Society's actuary and Tom Hermes, the JUA actuary explained in detail the methodologies each used in reaching the need for their respective rate increases (Durkin 9.7%) (Hermes 34.1%). The Deputy Commissioner interrupted the meeting to inform the attendees that his office had just received over the wire the federal guidelines with respect to rate increases applicable to the insurance industry. Mr. Balfour felt that in light of this information, the meeting should adjourn and all parties be afforded opportunity to determine whether the JUA filing was in conformity with the guidelines.

4) Annual Meetings of New England Medical Societies

Richard L. Testa, MD, Providence, RI will represent the Rhode Island Medical Society at the annual meeting of the Connecticut State Medical Society.

David R. Hallmann, MD, Pawtucket, RI will represent the Rhode Island Medical Society at the Massachusetts Medical Society annual meeting.

This completes the need for representatives to all the annual meetings of the neighboring New England Medical Societies.

5) Miscellaneous Information

The remaining items under the Secretary's Report were informational in nature and were accepted without discussion.

New Business

1) State Health Coordinating Council

Dr. Paul Metcalf addressed the House with respect to the action taken by the Standing Committee of the Pawtucket Medical Association, Inc. on March 13, 1979, which expressed the concerns and recommendations of the Association. A copy of this position is being made part of the Handbook of the March 21, 1979 House of Delegates meeting.

Dr. Caruolo explained that under Public Laws 93-641 the federal government mandated that a State Plan be developed for

health care. The SHCC upon concluding its work, will hold public hearings throughout the state after which SHCC will finalize a State Health Systems Plan which will be sent to HEW for review and approval. When this is approved and returned, it will remain a plan, not a law, and it will mean that all legislation pertaining to health care and health systems will conform to the plan. In addition, the composition of the Council is established by statute and consists of 30 members. The Society is one of 30 technical agencies contacted by SHCC and offered the opportunity to comment on the tentative programs. These are referred to members of the Committee on the Delivery of Medical Care, but unfortunately we, like some of the other technical agencies, do not have the statistical expertise to do this adequately.

Action: A motion was made, seconded and voted that the Committee on the Delivery of Medical Care report to the Council as to what action it would like the Society to take regarding SHCC.

Suggestions were made that the Society investigate, in conjunction with another involved agency, the possibility of hiring a statistician to review the SHCC material and report on its validity and completeness.

In addition, Dr. Seebert J. Goldowsky volunteered to abstract Volumes 1 and 2 of the Preliminary (Draft) State Health System Plan for distribution to the membership.

2) Board of Medical Review

Dr. Herbert F. Hager, a member of the Board of Medical Review, advised that all physicians who are licensed and in active practice are subject to the \$50 assessment mandated by the Malpractice Insurance Law and urged any who have not yet paid this assessment to do so before action is taken to revoke licenses.

Report of the Treasurer Melvyn M. Gelch, MD

Action: A motion was made, seconded and voted that the report of the Treasurer, as submitted, be approved and placed on file subject to audit.

Recommendations of the Council

1) Slate of Officers and Standing Committees

No counter nominations were offered to the slate of officers and standing committees as recommended by the Council.

Action: A motion was made, seconded and voted that the Secretary cast one vote indicating the House of Delegates approval of the slate of officers and standing committees presented by the Council.

2) Donations

Action: A motion was made, seconded and voted to approve the Council's recommendation that a \$250 donation be granted to the Committee on the Medical Aspect of Sports toward the cost of its program to be held on July 19-20, 1979.

Action: A motion was made, seconded and voted to approve the Council's recommendation that a \$100 donation be granted to the Rhode Island Medical Assistants towards the cost of the New England Regional AMA meeting being held in Providence on March 31, 1979.

Reports of Committees

Dr. Enos H. Dahlquist, Chairman of the Blood Bank Committee, apprised the House that the Community Blood Bank at University Heights Shopping Center, headed by Dr. Ronald Yankey as Medical Director, would open within a week.

Dr. Betty Mathieu, Chairperson of the Child-School Health Committee, noted that the committee members took umbrage with the article in a recent Newsletter to the effect that physicians were required by law to report all communicable diseases to the Department of Health. The connotation was that physicians were not complying with this statute, whereas, the reporting of such diseases by the physicians has been ignored by the Department of Health.

The Speaker noted that there were committee reports in the Handbook for the information of the members, but none called for any specific action by the House.

Action: A motion was made, seconded and voted that the written reports of the following committees, as submitted to the House, be received and placed on record: Library Committee (including the Report of the Librarian) and the Committee on the Medical Aspects of Sports.

The Speaker announced that those members of the House who so desired were welcome to attend the annual meeting of Blue Shield Corporation convening at 5 pm.

There being no further business the meeting was adjourned at 4:30 pm.

Respectfully submitted,
Melvin D. Hoffman, MD
Secretary

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Editorial

Smoking Habits of Rhode Island Physicians

While Rhode Island physicians may claim a low percentage of smokers compared to the population at large, they are not unique in this respect among professional groups. A study published last year by the Rhode Island Department of Health and the Section of Community Health of the Brown University Program in Medicine found that there are almost as many lawyers as doctors, proportionate to their respective total numbers, who do not smoke, have never smoked, or both.

In 1973 questionnaires were sent out to 1,384 licensed physicians residing in Rhode Island and 1,368 Rhode Island lawyers, asking the following key questions: "Do you smoke cigarettes?", "Were you ever a regular cigarette smoker?", and for former smokers, "Why did you stop?" The response rate was 89.2 per cent for physicians and 77.5 per cent for lawyers. Only 19.0 per cent of physicians and only 25.0 per cent of lawyers responding said that they are smokers, which can be compared with the 1975 estimate by Rhode Island Health Services Research, Inc. that 44.3 per cent of the general male population 25 years of age and over in our state smoke. A healthy 35.4 per cent of physicians and 35.8 per cent of lawyers responding had once had the habit and given it up, whereas in the general male population ex-smokers make up a lesser 30.5 per cent of the total. A substantial 45.6 per cent of physicians and 39.0 per cent of lawyers had never smoked, but only 25.3 per cent of males in the general Rhode Island population have never had the habit.

The authors of the study conclude that something besides medical education must be working to prevent physicians from taking up cigarettes as readily as do other occupational groups. Perhaps one of the explanations is the socioeconomic status of physicians, which is generally comparable to that of lawyers. Or there may be other reasons: "Clearly medical education is not the principal reason why phy-

sicians have a low rate of cigarette smoking . . . some earlier influences have acted upon the potential physicians as early as their teens".

Within the physician population, however, there may yet be some variation which is explainable only by medical education and experience. Experience undoubtedly is still a very good teacher. A rather high percentage of obstetricians, gynecologists, and orthopedic surgeons smoke cigarettes. On the other hand, the percentage of radiologists, internists, and otolaryngologists who smoke is considerably lower, and happily among Rhode Island pulmonary physicians and thoracic surgeons there wasn't even one smoker.

Karen Challberg

REFERENCE

Burgess AM Jr, Casey DB, Tierney JT. Cigarette smoking by Rhode Island Physicians, 1963-1973: comparison with lawyers and other adult males. *Am J Public Health* 68(1):63-65, Jan 78

Editor's Mailbox

The Physician and the Counselor

To the Editor:

The Mental Health Committee of the Rhode Island Medical Society has reviewed the paper titled "The Physician and the Counselor: A New Health Care Alliance" by Jerry M. Hatfield, MEd, which appeared in the *Rhode Island Medical Journal* (Vol. 61, No. 11, November, 1978).

There are two major points concerning this article which the Committee wishes to bring to the attention of the *Journal* readership:

1) "Counseling" is not a regulated and licensed profession. Consequently, there are no assured constraints upon one who practices in

this field to adhere to the ethical principles and professional standards of psychology and social work.

2) Furthermore, by training and by law the "counselor" is not qualified to diagnose and prescribe treatment for psychiatric problems.

Mental Health Committee
Hugo Taussig, MD
Chairman

The above letter was referred to Mr. Hatfield, who offers the following reply:

To the Editor:

Thank you for this opportunity to respond to Doctor Taussig and the Rhode Island Mental Health Committee.

In Rhode Island the only mental health professions currently licensed are psychiatrists and psychologists. While I strongly support reasonable attempts toward professional regulation for counselors, I disagree with Doctor Taussig's implication that adherence to ethical principles and professional standards is a natural consequence of such regulation.

In response to Doctor Taussig's second point, we are not yet at the point at which any of us can say with any certainty that any one profession, approach, or theoretical orientation is more effective than the other.

We should work together to promote the highest possible level of functioning for our patients. This is the main thesis of my article.

Jerry M. Hatfield, MEd

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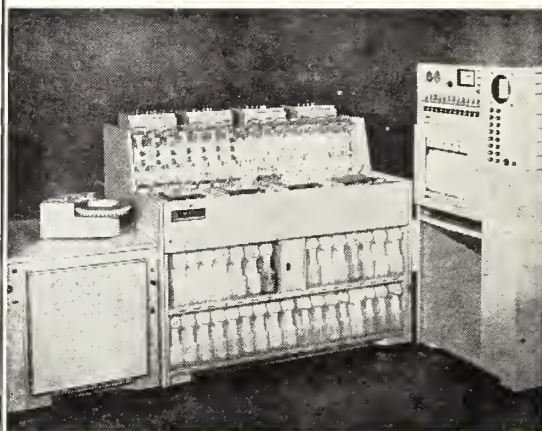
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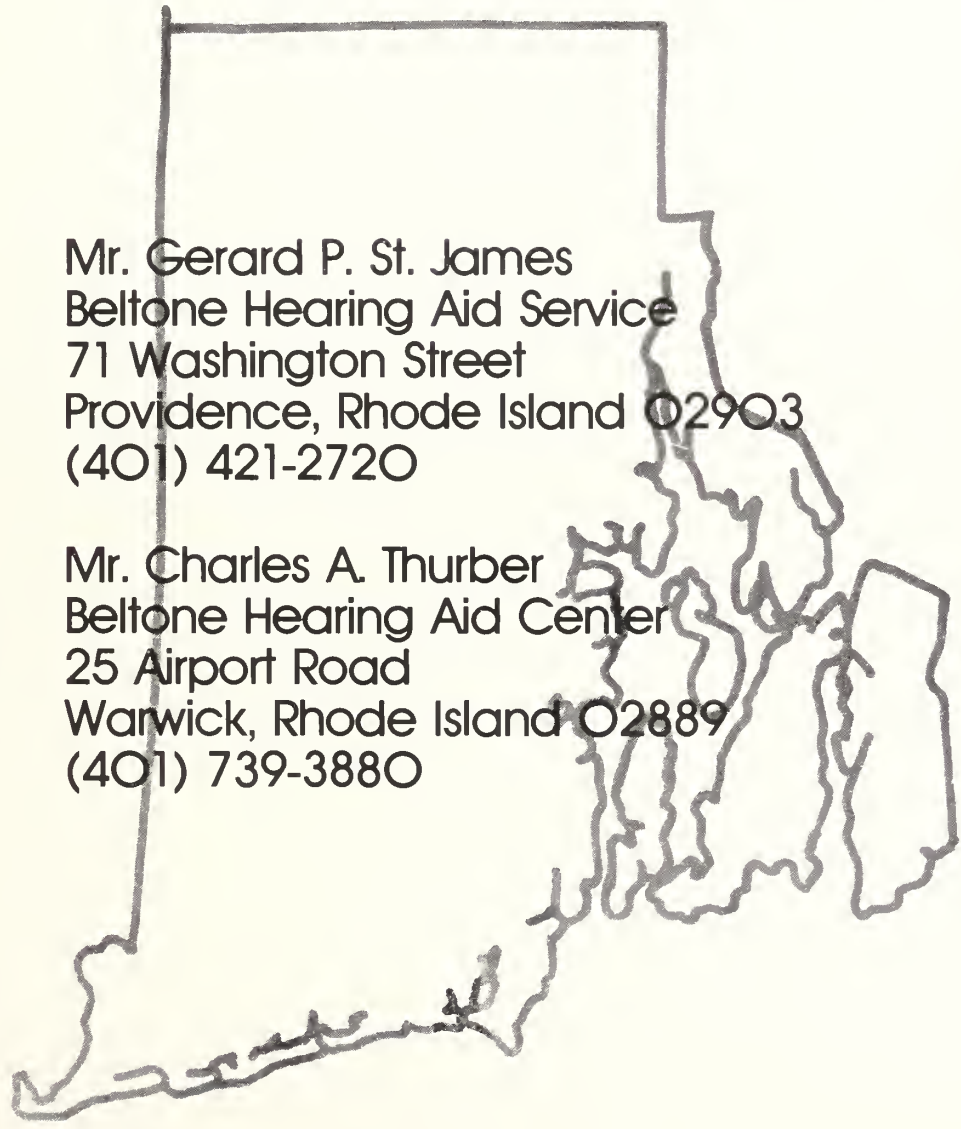
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INDICATIONS: Therapeutically, (as an adjunct to systemic therapy when indicated), for topical infections, primary or secondary, due to susceptible organisms, as in: infected burns, skin grafts, surgical incisions, otitis externa; primary pyoderma (impetigo, ecthyma, sycosis vulgaris, paronychia), secondarily infected dermatoses (eczema, herpes, and seborrheic dermatitis); traumatic lesions, inflamed or suppurating as a result of bacterial infection. Prophylactically, the

ointment may be used to prevent bacterial contamination in burns, skin grafts, incisions, and other clean lesions. For abrasions, minor cuts and wounds accidentally incurred, its use may prevent the development of infection and permit wound healing.

CONTRAINDICATIONS: This product is contraindicated in those individuals who have shown hypersensitivity to any of its components. Do not use in the eyes or in the external ear canal if the eardrum is perforated.

WARNING: Because of the potential hazard of nephrotoxicity and ototoxicity due to neomycin, care should be exercised when using this product in treating extensive burns, trophic ulceration and other extensive conditions where absorption of neomycin is possible. In burns where more than 20 percent of the body surface is affected, especially if the patient has impaired renal function or is receiving other aminoglycoside antibiotics concurrently, not more than one application a day is recommended.

When using neomycin-containing products to control

secondary infection in the chronic dermatoses, it should be borne in mind that the skin is more liable to become sensitized to many substances, including neomycin. The manifestation of sensitization to neomycin is usually a low grade reddening with swelling, dry scaling and itching; it may be manifest simply as failure to heal. During long-term use of neomycin-containing products, periodic examination for such signs is advisable and the patient should be told to discontinue the product if they are observed. These symptoms regress quickly on withdrawing the medication. Neomycin-containing applications should be avoided for that patient thereafter.

PRECAUTIONS: As with other antibacterial preparations, prolonged use may result in overgrowth of nonsusceptible organisms, including fungi. Appropriate measures should be taken if this occurs.

ADVERSE REACTIONS: Neomycin is a not uncommon cutaneous sensitizer. Articles in the current literature indicate an increase in the prevalence of persons allergic to neomycin. Ototoxicity and nephrotoxicity have been reported (see Warning section).

Complete literature available on request from Professional Services Dept. PML.

Guest Editorial

A Safe Cigarette?

There is no doubt that research has firmly linked cigarette smoking with increased morbidity and mortality from a number of diseases—lung cancer, coronary heart disease, cerebral and peripheral occlusive vascular disease, chronic obstructive pulmonary disease and gastrointestinal disorders. Few scientific facts are as firmly established as that of the adverse consequences of smoking cigarettes.

Yet cigarette production and consumption in the United States are at an all-time high. As of June 1977, an estimated 48 million adults and six million children were purchasing 626 billion cigarettes annually. Almost two-thirds of the adult population do not smoke, but *more* cigarettes are being consumed by those who *do* smoke.

While still denying any link between cigarette smoking and health hazards, the tobacco industry is moving swiftly to meet consumer demand for cigarettes with "low" tar and nicotine. Today, about 25 percent of all cigarette sales are in this category (15 mg. of tar or less), and the numbers are growing steadily. These cigarettes seem more profitable for the producer and may be slightly less hazardous. But low tar-nicotine cigarettes are not without significant danger.

The tobacco industry's own supported research, reported by the American Medical Association, the reports of the National Cancer Institute and the National Heart and Lung Institute, together with epidemiological studies of the American Cancer Society, unquestionably prove the hazards of high tar and nicotine cigarettes.

While there is evidence that cigarettes with lower tar and nicotine may be slightly less toxic, an American Cancer Society study over a 12-year period in a population of more than one million men and women showed that the

death rates for lung cancer and coronary heart disease in people smoking lower tar and nicotine cigarettes (less than 17.6 mg. tar and 1.2 mg. nicotine) far exceeded the rates for those who had never smoked. Reduced tar and nicotine is but a very small step toward minimizing the risk of a serious health problem.

And cigarette smoking affects the non-smoker as well. There is an increasing effort nationwide to limit the public areas in which cigarette smoking is permitted. Both mainstream and sidestream sources of smoke are atmospheric pollutants that cause simple discomfort to many non-smokers and when ventilation is poor may represent a serious threat to others who are particularly sensitive.

A less well known hazard of smoking is the effect on the fetus of the pregnant woman. The mother-to-be who smokes doubles her risk of delivering a still-born child, and the newborn generally weighs less than those of non-smoking mothers. Maternal smoking during pregnancy is also associated with an increase in late fetal and neonatal death rates.

Physicians, other health professionals, and institutions can serve the public well as educators and exemplars in changing cigarette smoking habits. Yet not enough of the nation's hospitals are actively engaged in anti-smoking efforts. Physicians do not do enough to educate patients about the dangers of smoking or to give them practical information about quitting. In fact, most cigarette smokers report that they have never been advised by a physician to stop smoking. The entire health community can promote a positive lifestyle to the public, by giving information and guidance about the risks of smoking and by referring smokers to cessation programs.

Since 1964, more than 30 million Americans have quit smoking. Adult cigarette smokers have decreased from 42 percent in 1964 to 34 percent in 1978. The American Cancer Society advises abstinence from cigarettes and conducts its education and cessation programs to

Reprinted with permission from *Ca-A Cancer Journal for Clinicians*, Volume 28, Number 6, November/December 1978

this end, and also encourages reduction of toxic ingredients in cigarettes to lessen the hazard for those who are unable to quit.

Low tar-nicotine cigarettes may undo their slight potential benefit if they encourage people, especially the young who have never smoked, to begin smoking or if in their production, manufacturers have added new, untested ingredients that ultimately prove harmful.

Reduction of tar and nicotine content has not converted cigarette smoking into a habit worth recommending. If anything, we have paid too little attention to reports that suggest cigarette smoking may be a true addiction rather than a psychological habituation.

Despite the misinterpretations of recent publications and reports, *there is no proven safe cigarette!*

Arthur I. Holleb, MD
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1. Nothing is as easy as it looks.
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4. Whatever you've planned to do costs more than the original estimate.
5. There is nothing sadder than a great idea whose time has not come.
6. Whatever project you set out to do, some other project must be done first.
7. Although you can't fool all of the people all of the time, you can sure fool a lot of the people a lot of the time.
8. By making something perfectly clear, someone will be totally confused.
9. Every great idea has a disadvantage equal to, or exceeding, the greatness of the idea.
10. Precise planning, minute attention to detail and exact timing never succeed like dumb luck.
11. The success of a good idea depends on knowing what to do with it.
12. The more ridiculous, stupid and dumb an idea is, the better chance it has of catching on.

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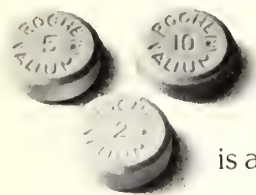


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Public Health Subjects

See Newsletter

A character all its own.



Valium (diazepam/Roche) is a benzodiazepine with a character all its own.

Pharmacologically, it is a potent skeletal muscle relaxant and anticonvulsant (in adjunctive use), as well as an antianxiety agent. Pharmacokinetically, only Valium provides active *diazepam* as well as the active metabolites 3-hydroxydiazepam, desmethyldiazepam and oxazepam.

But the individual character of Valium is even more apparent clinically than pharmacokinetically. And far more significant. That's because of the patient response obtained with Valium. A response which brings a calmer frame of mind. A response which has a pronounced effect on the somatic symptoms of anxiety, particularly muscular tension. A response which helps the patient feel more like himself again because of the way Valium reduces the overwhelming symptoms of anxiety and psychic tension.

Another important aspect of the clinical character of Valium is safety. Though drowsiness, ataxia and fatigue are possible, these and more serious side effects are rarely a problem. Of course, as with all CNS-acting drugs, patients taking Valium should be cautioned against driving, operating dangerous machinery or the simultaneous ingestion of alcohol.

Unquestionably, many psychotherapeutic agents, including other benzodiazepines, have antianxiety effects. But one fact remains: you get a certain kind of patient response with Valium. It's a response you want. A response you know. A response you trust as part of your overall management of anxiety and psychic tension.

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Before prescribing, please consult complete product information, a summary of which follows:

Indications: Tension and anxiety states; somatic complaints which are concomitants of emotional factors; psychoneurotic states manifested by tension, anxiety, apprehension, fatigue, depressive symptoms or agitation; symptomatic relief of acute agitation, tremor, delirium tremens and hallucinosis due to acute alcohol withdrawal; adjunctively in skeletal muscle spasm due to reflex spasm to local pathology; spasticity caused by upper motor neuron disorders; athetosis; stiff-man syndrome; convulsive disorders (not for sole therapy).

The effectiveness of Valium (diazepam/Roche) in long-term use, that is, more than 4 months, has not been assessed by systematic clinical studies. The physician should periodically reassess the usefulness of the drug for the individual patient.

Contraindicated: Known hypersensitivity to the drug. Children under 6 months of age. Acute narrow angle glaucoma; may be used in patients with open angle glaucoma who are receiving appropriate therapy.

Warnings: Not of value in psychotic patients. Caution against hazardous occupations requiring complete mental alertness. When used adjunctively in convulsive disorders, possibility of increase in frequency and/or severity of grand mal seizures may require increased dosage of standard anticonvulsant medication; abrupt withdrawal may be associated with temporary increase in frequency and/or severity of seizures. Advise against simultaneous ingestion of alcohol and other CNS depressants. Withdrawal symptoms (similar to those with barbiturates and alcohol) have occurred following abrupt discontinuance (convulsions, tremor, abdominal and muscle cramps, vomiting and sweating). Keep addiction-prone individuals under careful surveillance because of their predisposition to habituation and dependence.

Usage in Pregnancy: Use of minor tranquilizers during first trimester should almost always be avoided because of increased risk of congenital malformations as suggested in several studies. Consider possibility of pregnancy when instituting therapy; advise patients to discuss therapy if they intend to or do become pregnant.

Precautions: If combined with other psychotropics or anticonvulsants, consider carefully pharmacology of agents employed: drugs such as phenothiazines, narcotics, barbiturates, MAO inhibitors and other antidepressants may potentiate its action. Usual precautions indicated in patients severely depressed, or with latent depression, or with suicidal tendencies. Observe usual precautions in impaired renal or hepatic function. Limit dosage to smallest effective amount in elderly and debilitated to preclude ataxia or oversedation.

Side Effects: Drowsiness, confusion, diplopia, hypotension, changes in libido, nausea, fatigue, depression, dysarthria, jaundice, skin rash, ataxia, constipation, headache, incontinence, changes in salivation, slurred speech, tremor, vertigo, urinary retention, blurred vision. Paradoxical reactions such as acute hyperexcited states, anxiety, hallucinations, increased muscle spasticity, insomnia, rage, sleep disturbances, stimulation have been reported; should these occur, discontinue drug. Isolated reports of neutropenia, jaundice; periodic blood counts and liver function tests advisable during long-term therapy.

Dosage: Individualize for maximum beneficial effect. *Adults:* Tension, anxiety and psychoneurotic states, 2 to 10 mg b.i.d. to q.i.d.; alcoholism, 10 mg t.i.d. or q.i.d. in first 24 hours, then 5 mg t.i.d. or q.i.d. as needed; adjunctively in skeletal muscle spasm, 2 to 10 mg t.i.d. or q.i.d.; adjunctively in convulsive disorders, 2 to 10 mg b.i.d. to q.i.d. *Geriatric or debilitated patients:* 2 to 2½ mg, 1 or 2 times daily initially, increasing as needed and tolerated. (See Precautions.) *Children:* 1 to 2½ mg t.i.d. or q.i.d. initially, increasing as needed and tolerated (not for use under 6 months).

Supplied: Valium® (diazepam) Tablets, 2 mg, 5 mg and 10 mg—bottles of 100 and 500; Tel-E-Dose® packages of 100, available in trays of 4 reverse-numbered boxes of 25, and in boxes containing 10 strips of 10; Prescription Paks of 50, available singly and in trays of 10.



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JULY, 1979

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Rhode Island Medical Society

NEWSLETTER

James R. Clarkin, *Editor*

July, 1979

Council Briefs

Meeting June 4, 1979

Charles L. Hill, MD, Presiding

Following is a summary of the significant actions taken at the June meeting of the Council:

- Named a Committee to inspect and report on the property for sale of Mrs. Helen Cooper, 11 Hayes Street, adjacent to the Rhode Island Medical Society building. Members of the Committee are Drs. Peter L. Mathieu, Jr., Herbert F. Hager, and Melvyn M. Gelch.
- Voted staff salary increases.
- Heard a report of Dr. Kenneth Liffmann on the efforts of the Joint Underwriting Association to improve its services and administration.
- Heard a report of Atty. James Ackerman, JUA Legal Counsel, and John Suman, JUA Claims Examiner, on the JUA's reasons for defending the ensured Orthopods against the Podiatrists' suit. A motion was voted that Atty. Charles E. Clapp, II, Legal Counsel, follow the progress of this suit. Also, Drs. James A. McGrath, Anthony F. Merlino, Richard F. Judkins and Charles E. Millard were appointed to a committee to follow the progress of the suit.
- Authorized a sub-committee to the Committee on the Delivery of Medical Care to study proposal of the State Health Coordinating Council (SHCC).
- Heard a report of Dr. Louis Vito, Jr., Chairman of the Committee on Self-Insurance, concerning meetings with a representative from each of two different insurance companies on the feasibility and procedures for establishing a "self-insurance" company in Rhode Island.
- Voted that a recommendation for an assessment of \$25. per member for a self-insurance feasibility study be placed on the agenda of the next meeting of the House of Delegates.
- Heard a report from Dr. Peter L. Mathieu, Jr. on the activities of the past legislative session.
- Voted to establish a discretionary fund of \$5,000 for *Rhode Island Medical Journal* special features and other possible public relations programs.
- Discussed the possibilities for a closer relationship between the Rhode Island Medical Society and the Association of Presidents of Hospital Staffs.
- Discussed the situation of agencies and other groups applying for grants to provide medical care to underprivileged areas of the state.

Meetings

The tentative schedule of Rhode Island Medical Society Council and House of Delegates meetings for the upcoming year 1979-1980 is as follows:

Monday, September 17th — Council
Wednesday, October 10th — House
Monday, November 5th — Council
Monday, January 14th — Council
Wednesday, January 30th — House
Monday, March 10th — Council
Wednesday, March 26th — House
Wednesday, May 14th — Annual Meeting

All Society members are invited to attend the meetings of the House of Delegates.

AMA-ERF Aids to Education

In 1978 more than 4,000 medical students and young physicians-in-training borrowed \$5.8 million to help meet their expenses through the American Medical Association Education and Research Foundation Student Loan Guarantee Program. In this program AMA-ERF deposits funds with banks to guarantee the loans, in effect co-signing the note with the student. Since the establishment of the program in 1962, more than \$90 million in loans have been arranged and guaranteed by the AMA-ERF. Some 94 per cent of all borrowers whose loans have matured since 1962 have repaid or are repaying their obligations with no special prompting.

Also in 1978, a total of \$1,336,383 was channelled directly to the nation's medical schools in grants from AMA-ERF. The funds were distributed in March, 1979. In the program of direct grants to medical schools the sums varied considerably, but virtually every school in the United States received some money. Much of the money earmarked for direct grants to medical schools comes from physicians who are graduates of those schools and wish to support their alma mater. Thus, the older schools, with large contingents of graduates, generally received the largest grants. The grants are made directly to the dean of the school without restriction. Brown University Program in Medicine this year received \$1,606.75

Medical Records at Retirement: Transfer or Safekeeping

Medical records are the property of the physician, not the patient. They are maintained by the physician primarily for the purpose of assisting him in the diagnosis and treatment of the patient and everything included in those records is protected from disclosure by the physician as confidential information. The records may be transferred to another physician, but only with the consent of the patient, and only at the direction of the patient. The patient's authorization and consent should be obtained in writing.

If a physician is purchasing the practice of a retiring or deceased physician, the purchasing physician may not acquire the medical records of the patients without the express written consent and direction of the patient. Of course, the patient may not be solicited for this consent by either the purchasing or the selling physician. The proper procedure would be for the retiring physician or the family of the deceased physician to notify the patient of the fact of the doctor's death or retirement and advise the patient that his or her medical records will be transferred to whichever physician the patient wishes to consult, but that the patient must advise the physician in writing. In the normal course of this procedure, the purchasing physician will probably get the largest portion of the patients. He should receive for his use only the records of those patients who have elected to be treated by him.

What about the records of those patients who do not authorize the transfer of their medical records: If they cannot be transferred, can they be destroyed? Actually, destruction may be a great disservice to both the patient and the physician (or the physician's estate). These records may be important in defending a malpractice claim against the physician or against his estate. It may, in fact, be the only defense available. Therefore, for the protection of the physician and his estate, the records should be retained for at least the period of the Statute of Limitations and remember that this statutory period does not apply against minor patients until after they reach the age of majority, usually 21 years age. There are also occasionally other exceptions and circumstances which extend the period of the Statute of Limitations, so due consideration should be given to these factors before any records are destroyed.

Also, these records may contain information that is vital to the later treatment of the patient; or perhaps the information in the records would be helpful in assisting the patient to qualify for an insurance policy, or a new job, or in the patient's claim for injuries resulting from an accident. It would be wasteful to destroy such potentially valuable records. It would be nice to think that the records would remain in existence as long as the patient lived, but, of course, this must be balanced against the limitations involved in retaining the records.

We suggest that the records of those patients who do not authorize the transfer of their records to the purchasing physician or another physician be entrusted to the purchasing physician for safekeeping. It is possible that a patient, sometime after the sale is concluded, may want his records transferred to another physician, and this patient would probably go back to the office of his original physician seeking those records.

Also, we suggest that a retiring or purchasing physician make a point to inform the Rhode Island Medical Society of the place of safekeeping of a retiring physician's records. We will maintain this information on file indefinitely. RIMS receives many calls from patients attempting to locate their records, often many years after the retirement of their physician. We would like to be able to help these patients, but we need the information from you to do so.

What They're Saying . . .

"If there were ever any doubts about how numerous HEW regulations have become, the January 19 Federal Register dispels them. It contains 142 pages of only the names of regulations HEW plans to issue in 1979. A sizeable number of HEW's planned regulatory initiatives deal with limiting Medicare payments to hospitals and physicians."

*McGraw-Hill's Washington Report
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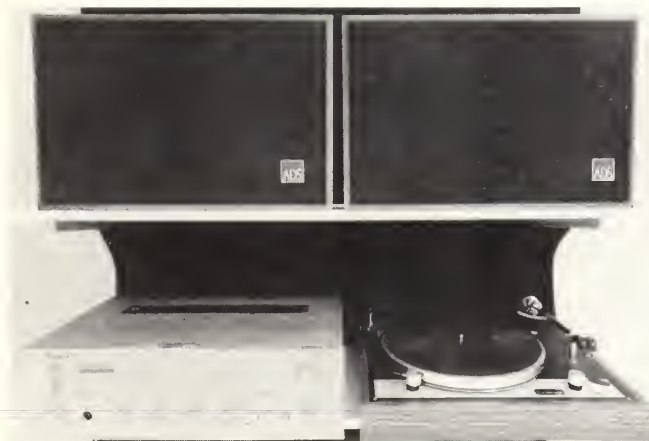
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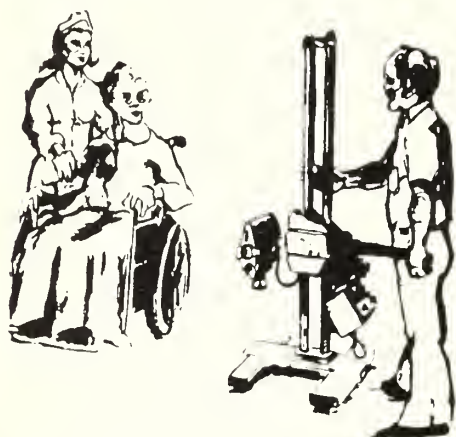


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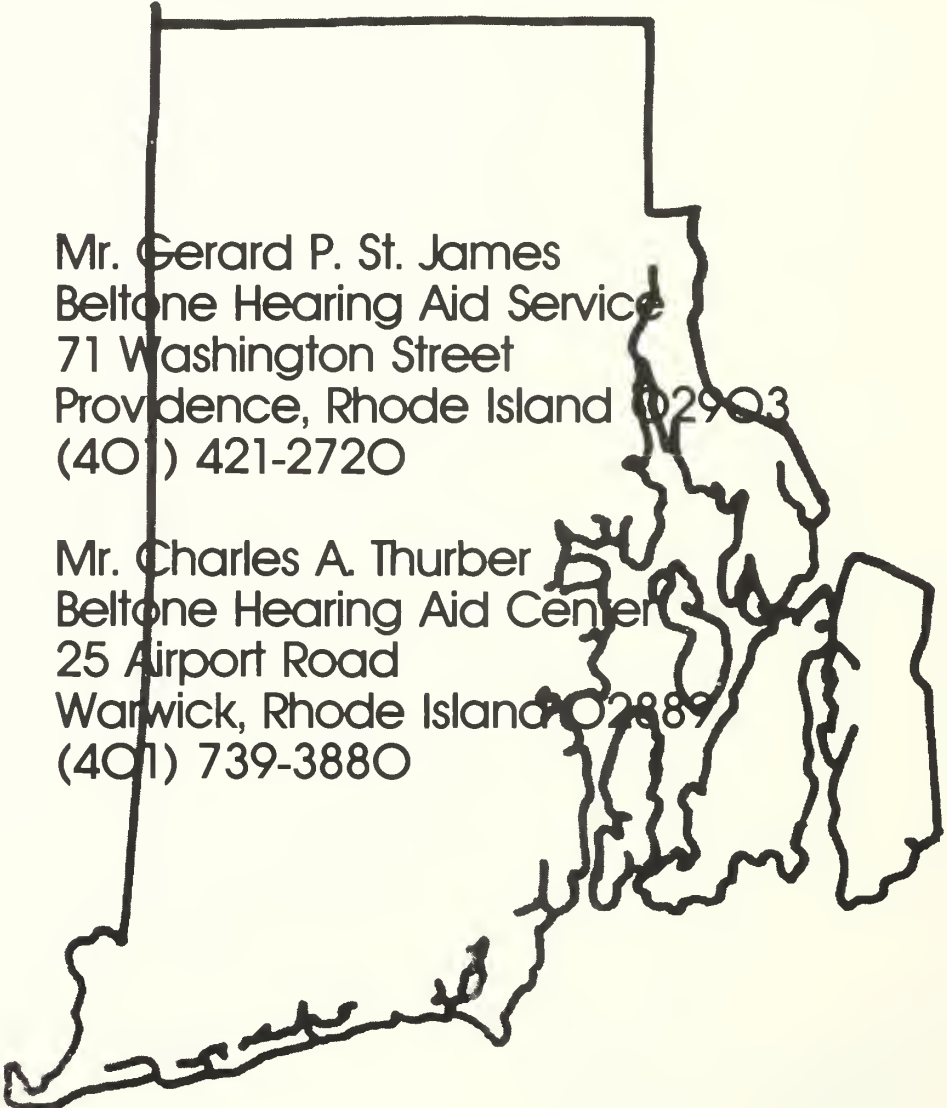
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MESSAGE FROM THE DEAN

On Communication

The proliferation of diagnostic and therapeutic machines in no way replaces the compelling need for clear and unambiguous communication between patient and physician. Even in this day of sophisticated technologies, most diagnostic information is still derived from the patient's words and, similarly, most treatment or preventive measures are still conveyed through oral instruction to the patient. Paul, in his letter to the *Corinthians*, says, "And if the bugle gives an indistinct sound, who will get ready for battle? So with ourselves, if you in a tongue utter speech that is not intelligible, how will anyone know what is said?". The injunction that words are of value only when mutually understood and representative of the intended message is especially valid in the transaction between patients and physicians.

A while ago, the senior medical faculty members at Brown University were asked to identify the major problems encountered in the educational process of our medical students. Their most frequently expressed concern related to the difficulties which their students seemed to have in conveying thoughts, either orally or in writing. Comments were frequently made about inexact choice of words, the rarity of simple, declarative sentences, and the amorphous structure of essays, compositions, and progress notes. Many of the preceptor-physicians remarked upon the peculiar difficulties medical students had in translating the sundry clinical events derived from conversations with patients into an understandable, chronologically ordered composition. These observations held by

much of the medical faculty may reflect a diminishing importance which our entire educational structure assigns to language and composition. The problem is certainly not unique to medical students studying in Rhode Island nor, indeed, to medical students studying anywhere. Educational authorities throughout the country have made similar observations during the past few decades, and the literacy of our college students has been periodically "viewed with grave concern". However, when the welfare of the patient may be determined in part by the coherence and clarity of the physician's conversation, the "grave concern" may be appropriate.

Physicians educated more than 40 years ago will recall that familiarity with languages, particularly German and Latin, were stated requirements for admission to medical schools. While the language prerequisites in the earlier decades of this century were probably established to afford the student with ready access to professional nomenclature and literature, they may have contributed, nevertheless, toward greater communicative skills. Foreign languages are no longer required by medical schools; indeed, few medical schools even recommend the study of language, and English, as a subject worthy of formal study, is relegated to a passing gesture (eg, facility in English is required).

Of the many aspects of faulty communication, perhaps the easiest to correct is the mutual frustration of the physician who speaks only English and the patient who speaks but a little English. In Rhode Island,

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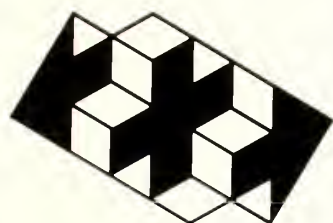
for example, there are a moderate number of people who speak only Portuguese. In recognition of this, the Brown medical school began, in 1977, an evening course in conversational medical Portuguese. The course is provided not only for our medical students, but also for interested house staff officers and faculty, and consists of both classroom exercises and individual experience in the language laboratory of the University. It will be offered again this autumn, without tuition cost, and this year will be available also to a limited number of practicing physicians of the greater Rhode Island community (for those interested, please call Mrs. Irene Owens, 863-3337).

The major problem, however, remains: How best to stir medical students to an awareness of the importance of talking (and writing) clearly and listening intently; and when this is achieved, how to employ the framework of undergraduate medical education to effectively train our students to be at ease in the comprehensible use of language. While the problem may be stated in the technical terms of communicative skills, it likely has its deeper origins in diminished sensitivities to the thoughts of the distressed patient. Paul also said, "If I speak in the tongues of men and of angels, but have not love, I am a noisy gong or a clanging cymbal". Given the diverse and increasing educational burdens upon the current medical student, and given the fact that we tend to admit students to medical schools by criteria of intellectual superiority rather than humaneness, this problem may not be easily solved.

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Rabies Epidemiology and Management in Rhode Island

Bats, Skunks, And Foxes Present The Greatest Risk In Rhode Island

By Gerald A. Faich, MD, MPH

Rabies is a rare human disease in the United States, but a frequent emergency room and outpatient concern related to animal bites. It is estimated that over one half million animal bites, mainly canine, occur in the United States.¹ About 30,000 human post-exposure treatment courses of rabies vaccine are used every year in the United States.² The purpose of this article is to review the epidemiology and recommended therapy of rabies for Rhode Island physicians. The recurrent problem of whether or not to initiate prophylactic vaccination for a person exposed to the saliva of a potentially rabid animal is often difficult. Procedures for management of biting animals are frequently misunderstood. Final decisions must be based on a number of interrelated probabilities.

Epidemiology

While all warm-blooded animals are susceptible to rabies, vectors are primarily bats and carnivorous animals. Rhode Island has been free from rabies in domestic animals since 1966. In southern New England skunks, foxes, and bats are the important silvatic hosts of rabies. No skunk or fox rabies has been confirmed in Rhode Island; however,

these species have occasionally been found to be rabid in Massachusetts and Connecticut. The widespread distribution of skunks and their ability to thrive in areas adjacent to dense human populations makes this species a particular hazard. Racoons are considered a major wildlife vector for rabies in the southeast and the midwest, but have not yet been found to be a significant host in New England.

Further mention should be made of rabies in bats. Bats have been incriminated as rabies carriers nationwide. In recent years bats have been the most frequent source of human infection in the United States.³ For the five-year period 1973 to 1977, 9 per cent of 127 bats examined by the Rhode Island Department of Health were found to be infected with rabies (see Table). Bats are the principle reservoir for rabies in Rhode Island; a bat bite must always be considered a high risk exposure.⁴

In 1977 five skunk and four bat bites were reported in Rhode Island. Of these, three skunks and one bat were captured and found to be free of rabies on laboratory examination. The other animals were not captured and had to be considered possibly rabid, leading to prophylactic treatment of the five involved bite victims.

It should be emphasized that tree squirrels, ground squirrels, chipmunks, prairie dogs, rats, mice, other rodent species, and rabbits are not considered significant in the trans-

GERALD A. FAICH, MD, MPH, *Chief, Division of Epidemiology, Rhode Island Department of Health, Providence, Rhode Island.*

Table. Rabies Testing by Type of Animal
Rhode Island Department of Health
1973-1977

Year	Bats	Carnivorous Wildlife	Rodents & Rabbits	Domestic Animals
1973	15	6	43	40
1974	24	4	54	57
1975	26	4	36	60
1976	37	7	36	61
1977	25	11	12	34

Note: All tests were negative except for 12 bats (9%)

mission of rabies. No human rabies cases in the United States have ever been attributed to exposure to such animals.⁵ Additionally, pet rodents including gerbils and hamsters are not considered vectors of the disease since they lack the opportunity for exposure to the disease.

Management of the Biting Animal

Any dog or cat that inflicts a human bite wound should be confined (usually at the owner's home) and observed for a period of ten days from the time of the attack. Biting stray dogs and cats ought to be held at the public pound. Any illness in the animal during this period should be reported immediately to the Department of Health. If the animal dies or develops signs suggestive of rabies, the head must be submitted to the State Laboratory for rabies examination. If the dog or cat is healthy at the end of ten days, no further restrictions are necessary except that a current rabies vaccination should be confirmed.

If another *domestic* animal species is involved, or if the biting cat or dog is lost, the rabies risk is near zero and further action is usually not indicated. When the biting animal is wild (*exclusive of rodents and rabbits*) and is captured, it should be killed immediately and the head submitted for rabies examination. Care must be taken not to damage the brain of the animal. A biting wild animal that escapes is often regarded as rabid, particularly if the animal is a skunk, fox, or bat.

Laboratory Procedures

The Department of Health Laboratory is the only facility for rabies examination in Rhode Island. The laboratory uses a fluorescent antibody technique and mouse inoculations to diagnose rabies. Specimens are accepted only from licensed physicians or veterinarians. Examinations are usually limited to wild or domestic mammals that have bitten human victims, except when special arrangements are made. Rodents and rabbits will not be examined. Excepting bats, only the head of an animal will be received. Animal sacrifice and preparation of the head should be done by a veterinarian. Specimens must be shipped cold (*not frozen*). The laboratory performs all examinations without charge; however, the cost of the animal sacrifice and shipment must be borne by the practitioner or patient.

A summary of recent laboratory testing is shown in the Table. The negative findings for rodents, rabbits and domestic animals has led to more selective testing of these species since 1977.

Rabies Prophylaxis in Humans

The Division of Epidemiology provides 24 hour a day consultative services for rabies. It will aid in decisions about treatment, arrange for laboratory examinations, and provide vaccine. A crucial step in the prevention of rabies is the immediate and thorough local treatment of all bite wounds. Copious flushing and nonabrasive scrubbing of the wound with soap detergent and water is essential. Generally, primary closure of any bite wound is contraindicated particularly when rabies may be a complicating factor. Tetanus immune status should be ascertained and updated if necessary.

Duck embryo (DE) vaccine has been the principle available and recommended vaccine for human post-exposure rabies immunization.² While this vaccine has a much lower serious complication rate than previously used nervous tissue vaccines, its use is not without risks and inconvenience. A study of 116 post-bite patients treated with 23 doses of duck embryo vaccine indicated that 100 per cent developed local skin reactions, 33 per cent had constitutional reactions such as fever, and

one (0.9 per cent) had an anaphylactic reaction.⁶ These adverse reactions must be balanced against the fact that rabies is almost 100 per cent fatal. If a significant exposure occurs, there is little question that vaccine must be used. The treatment schedule for DE vaccine consists of 21 subcutaneous injections given over 14 or 21 days followed by two booster doses at 10 and at 20 days after completion of the primary series.

There is evidence that rabies virus remains at or near the wound site for most of the incubation period and that immune globulin aids in virus immobilization. For these reasons post-exposure rabies prophylaxis should always include human rabies immune globulin (HRIG), some of which is infiltrated into tissue adjacent to the wound. HRIG should be used regardless of the interval between exposure and treatment. Because the immune globulin is of human origin, there need be little concern about serum sickness, which was often caused by the equine product previously in use.

A new vaccine produced in human diploid cell strain (HDCS) cultures has recently been made available on a limited basis.⁷ This vaccine is far more immunogenic than DEV; usually only 5 doses are needed to provide protection. To date HDCS vaccine is available only for human victims bitten by animals with laboratory-confirmed rabies.

Following vaccine use, a blood sample should be submitted to the Department of Health Laboratory to determine antibody level and whether further immunization is necessary. Vaccines and HRIG are available free from the Department of Health.

Summary

Bats, skunks, and foxes present the greatest risk of rabies to human subjects in Rhode Island. When possible, such biting animals should be submitted to the laboratory to rule out rabies. Dogs and cats now present an almost negligible rabies risk in the state. No laboratory examination of squirrels, mice, other rodents, and rabbits is merited. When rabies is laboratory confirmed or when a high risk biting animal is lost, treatment with hyperimmune serum and rabies vaccine is indicated. Day and night consultation on all aspects of animal management, laboratory

procedures, and post-exposure therapy is available from the Department of Health.

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Characteristics of Children Suspected of Being Abused or Neglected

Study Of Thirteen Year Experience At Rhode Island Hospital Leaves Many Questions Unanswered

By John S. O'Shea, MD

Edward J. Morschauser, Jr., MSW

In most parts of the United States reports of suspected child abuse and neglect continue to increase.¹⁻⁵ Although there are now several highly organized family treatment programs,⁶⁻¹³ the long-range impact of these programs on family functioning (both as a unit and as a group of individuals) is as yet unknown.¹⁴⁻¹⁸ Techniques do not yet exist that are specific and sensitive enough to recognize¹⁹⁻²¹ and help^{22,23} the family at risk prior to the actual occurrence of any worrisome behavior. The widespread belief, moreover, that certain demographic characteristics are typical of abusing or neglecting families may not be valid, or at least may have resulted in an inappropriate lack of suspicion concerning

"atypical" ones or — with the current publicity being given child abuse and neglect in the non-medical press — possibly even in some "typical" families being subtly expected to maltreat their children.^{5,24,25}

This report focuses on the demographic characteristics and management of families suspected by the pediatric department of Rhode Island Hospital.

Procedure

Between January 1964 and December 1976, 147 Rhode Island Hospital patients between infancy and 18 years of age were suspected of being abused or neglected. The Brown University integrated pediatric program has been centered at this hospital since 1973 when the university began a medical school offering all of the training required of students seeking a doctorate in medicine. Throughout the entire period of study, however, (1) the pediatric attending or resident physicians were responsible for relaying concern about suspected families to the hospital's social service department, (2) the social service department assumed the major responsibility for coordinating the evaluation of families suspected of abuse or neglect and the reporting of these families to the state's protective services unit,

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and (3) the state of Rhode Island had laws (a) encouraging the reporting of suspected families to the protective services unit of the Division of Child Welfare of the state's Department of Social and Rehabilitative Services and (b) requiring the investigation and follow-up of these reports by that unit.^{26,27}

From the hospital records of each of these 147 patients the following information was sought: (1) the year when the suspicion occurred, (2) the age, sex, race, and socioeconomic status of the patient, (3) whether the patient was an inpatient at the hospital, (4) whether the suspicion of abuse or neglect was reported to the state's protective services unit, and (5) the main diagnosis indicative of abuse or neglect. The socioeconomic status of each patient was determined from the census tract within which the patient lived as "high," "medium," "low," and "poverty." Such an approach to determining socioeconomic status is justified on the basis that:

- The entire state is divided into 185 census tracts in such a way that each census tract contains people of approximately the same socioeconomic status;
- The socioeconomic status of the various census tracts did not change appreciably during the 13 years of the study; and
- Careful assessments of individual patients evaluated at Rhode Island Hospital have confirmed the appropriateness of this assessment of socioeconomic status by census tract.

The main diagnosis for the type of abuse of neglect for each of the 147 patients was classified as one of the eight alternatives. These alternatives were divided into three groups according to the apparent degree of physical danger (Table 1).

The data concerning the 147 patients were analyzed, with statistical significance ascertained by chi square tests.

Results

(1) *Related to the year when abuse or neglect was suspected.* A marked increase was observed during the study in the number of children suspected by the pediatric attending or resident staff and discussed with the hospital's social service department: an annual average of 6 between 1964 and 1970, 15 between 1971 and 1973, and 21 between 1974 and 1976. Although more were hospitalized,

TABLE 1

Main diagnosis classified according to the apparent degree of physical danger.

<i>Degree of physical danger</i>	<i>No. (%)</i>	<i>No. (%)</i>
<i>Main diagnosis</i>		
Most physical danger		42 (28%)
Suffocation	1 (1%)	
Intracranial injury	18 (12%)	
Burn(s)	15 (10%)	
Fracture(s)	8 (5%)	
Intermediate physical danger		77 (52%)
Soft tissue injury, without intracranial injury or burn(s)	77 (52%)	
Least physical danger		28 (19%)
Sexual molestation, without physical injury	4 (3%)	
Neglect, without physical injury	21 (14%)	
Behavior problem.	3 (2%)	

more were reported to the state's protective services unit, and more girls were suspected in recent years, there were no changes in the age ($p>0.3$), race ($p>0.5$), or socioeconomic status ($p>0.5$) of the patients.

(2) *Related to the age, sex, race, and socioeconomic status of the patient.*

(a) *Age.* Of the 147 patients, 101 (69 per cent) were less than four years of age, with 35 (24 per cent) under one and 30 (20 per cent) between one and two; 18 (12 per cent) were between four and seven; 28 (19 per cent) were between seven and seventeen, with only 9 (6 per cent) over eleven. Blacks appeared to be over-represented among the patients under one year of age, but no relationship was observed between age and either the year that the child was suspected ($p>0.5$) or his or her socioeconomic status ($p>0.5$).

(b) *Sex.* Although in the entire study 76 (52 per cent) of the patients were boys and 71 (48 per cent) girls, the proportion of girls rose from 40 per cent (15 of 38) in the 1964 to 1970 period and 36 per cent (16 of 44) in 1971 to 1973 to 61 per cent (39 of 64) in 1974 to 1976 ($p<0.05$). This change cannot be attributed to an increase in girls suspected of sexual molestation or of neglect, nor to any obvious increase in efforts by the pediatric residents to avoid suspecting mostly boys (since the residents apparently have never been aware of the 1964 through 1973 data). There was no sex difference between the various abuse or neglect diagnoses ($p>0.3$).

TABLE 2

Race of the hospital children suspected of being abused or neglected, of the hospital ambulatory pediatric population, and of the state population.

	<i>Suspected of abuse or neglect</i>		<i>Ambulatory pediatric</i>	<i>State</i>
	<i>United States native white</i>	<i>United States native black</i>		
United States native white	106 (72%)	101 (46%)	889,500 (97%)	
United States native black	38 (26%)	81 (37%)	9,200 (1%)	
Other (mostly Spanish or Portuguese native white)	3 (2%)	39 (18%)	18,300 (2%)	
Total	147	221	917,000	

TABLE 4

Socioeconomic status compared to the race of the suspected children and to the state population.

	<i>Suspected children</i>			<i>State population</i>
	<i>United States native white</i>	<i>United States native black</i>	<i>Total</i>	
High	39 (39%)	29 (78%)	68 (49%)	234,500 (26%)
Medium	30 (30%)	4 (11%)	34 (25%)	354,200 (39%)
Low	24 (24%)	3 (8%)	27 (20%)	256,800 (28%)
Poverty	8 (8%)	1 (3%)	9 (6%)	71,500 (8%)
Total	101	37	138*	917,000

* The three Spanish or Portuguese native white patients and the six with unknown socioeconomic status were not included.

TABLE 6

Inpatient hospitalization of suspected children during the years of the study.

	<i>Inpatient hospitalization of suspected children during the years of the study.</i>			<i>Total</i>
	<i>1964-1970</i>	<i>1971-1973</i>	<i>1974-1976</i>	
Inpatients	22 (58%)	35 (80%)	55 (86%)	112 (77%)
Exclusively ambulatory patients	16 (42%)	9 (20%)	9 (14%)	34 (23%)
Total	38	44	64	146*

* Data were not available for one patient.

TABLE 3

Race compared to the age of the children suspected of being abused or neglected.

	<i>Race compared to the age of the children suspected of being abused or neglected.</i>					
	<i>< 1 year</i>	<i>1 to < 2</i>	<i>2 to < 4</i>	<i>4 to < 7</i>	<i>7 to < 18</i>	<i>Total</i>
United States native white	21 (60%)	21 (72%)	27 (75%)	16 (100%)	21 (75%)	106 (74%)
United States native black	14 (40%)	8 (28%)	9 (25%)	0 (0%)	7 (25%)	38 (26%)
Total	35	29	36	16	28	144*

* The three Spanish or Portuguese native white patients were not included.

TABLE 5

Reporting to the state's protective services unit of children suspected of being abused or neglected compared to socioeconomic status.

	<i>High, medium, or low</i>			<i>Poverty</i>	<i>Total</i>
	<i>High</i>	<i>Medium</i>	<i>Low</i>		
Reported	121 (93%)	8 (73%)	8 (73%)	129 (91%)	
Not reported	9 (7%)	3 (27%)	3 (27%)	12 (9%)	
Total	130	11	11	141*	

* The six children with unknown socioeconomic status were not included.

TABLE 7

Reporting to the state's protective services unit during the years of the study.

	<i>Reporting to the state's protective services unit during the years of the study.</i>				<i>Total</i>
	<i>1964-1970</i>	<i>1971-1973</i>	<i>1974-1976</i>		
Reported	28 (74%)	43 (98%)	62 (97%)	133 (91%)	
Not reported	10 (26%)	1 (2%)	2 (3%)	13 (9%)	
Total	38	44	64	146*	

* Data were not available for one patient.

TABLE 8

The degree of physical danger implied in the abuse or neglect diagnosis during the years of the study.

	<i>The degree of physical danger implied in the abuse or neglect diagnosis during the years of the study.</i>			<i>Total</i>
	<i>1964-1970</i>	<i>1971-1973</i>	<i>1974-1976</i>	
Most or intermediate physical danger	35 (92%)	35 (80%)	49 (76%)	119 (82%)
Least physical danger	3 (8%)	9 (20%)	15 (23%)	27 (18%)
Total	38	44	64	146*

(c) *Race*. As shown in Table 2, there was a disproportionately large number of black families suspected of abuse or neglect ($p < 0.001$), but such a racial distribution is typical of all the patients using the hospital's ambulatory pediatric facility. The hospital ambulatory pediatric data were obtained in a random study conducted between March 1975 and April 1976; the state data were compiled during the latest national census.²⁸ More importantly, within this study blacks were overrepresented among children with a relatively high socioeconomic status and among those under one year (Table 3; $p < 0.05$). No correlations were noted, however, between race and the year of the study ($p > 0.5$), whether the patient was hospitalized ($p > 0.5$) or reported to the state's protective services unit ($p > 0.15$), or the main abuse or neglect diagnosis ($p > 0.35$).

(d) *Socioeconomic status*. Table 4 indicates that black children suspected of being abused or neglected were overrepresented in the "high" socioeconomic level compared to the white children ($p < 0.001$) and to the state population in general ($p < 0.01$). The white suspected children, moreover, were not appreciably different from the rest of the state population in socioeconomic status, except for a relative underrepresentation in the "high" and overrepresentation in the "medium" levels ($p < 0.05$). The state data were obtained in the latest national census.²⁸ As noted in Table 5, children with the "poverty" socioeconomic status were less apt to be reported to the state's protective services unit than the other patients ($p < 0.05$). No significant relationships were noted between socioeconomic status and the year of the study ($p > 0.5$), the age of the patient ($p > 0.4$), whether the patient was hospitalized ($p > 0.3$), or the main child abuse or neglect diagnosis ($p > 0.5$).

(3) *Related to whether the patient was hospitalized as an inpatient*. Only 113 (77 per cent) of the suspected children were inpatients, with the other 34 (23 per cent) being evaluated exclusively while ambulatory. As expected, those with conditions that appeared to be the most dangerous physically were most likely ($p < 0.01$) to be hospitalized: 93 per cent (39 of 42) of those with suffocation, intracranial injury, burn(s) and/or fracture(s) or combinations of these compared to 70 per cent (74 of 105) of those with the other less worrisome diagnoses. The proportion of the sus-

pected children who became inpatients increased as the study progressed ($p < 0.005$) (Table 6). No correlations were noted between whether the children were inpatients and their race ($p > 0.5$) or socioeconomic status ($p > 0.3$).

(4) *Related to whether the suspicion of abuse or neglect was reported to the state's protective services unit*. As the years progressed suspected children were more apt to be reported ($p < 0.001$) (Table 7). Reporting was dependent in each case on the pediatric attending or resident physician's notifying the hospital's social service department and on the department's relaying the report to the state's protective services unit. As noted in Section 2d, reporting was less likely to occur in the case of suspected children in the "poverty" socioeconomic level. Reporting did not depend significantly on the patient's race ($p > 0.15$) or abuse or neglect diagnosis ($p > 0.5$).

(5) *Related to the main diagnosis indicative of abuse or neglect*. As the study progressed (Table 8), more children assigned the apparently less physically dangerous diagnoses (*viz* sexual molestation without physical injury; neglect without physical injury; behavior problem) were discussed by the pediatric attending or resident physicians with the hospital social service department ($p < 0.02$). The children believed by the authors to have diagnoses indicating more physical danger were (as expected) more apt to be admitted to the hospital as inpatients. There were no relationships observed, however, between the various diagnoses and the sex ($p > 0.3$), race ($p > 0.3$), or socioeconomic status of the patients ($p > 0.5$), or reporting of the patients to the state's protective services unit ($p > 0.5$).

Comment

The actual incidence of child abuse and neglect will be known only if a random sampling of families representing all ethnic groups and socioeconomic levels is followed prospectively, ideally without the observers being aware of the families' demographic characteristics. It would be necessary to follow families for many years to determine the extent of such supposed abuse or neglect, the significance of these various occurrences, and whether children or parents are more likely to be responsible for these occurrences. In other words, no one currently knows what type and amount of so-called maltreatment (unless

obviously resulting in immediate and permanent damage) really is detrimental.

This report is intended to stimulate the careful long-term studies needed to evaluate the various programs for preventing or treating supposed child abuse or neglect. Do the data in this and other similar studies^{18,24,29-35} really tell us anything useful? Or do they merely reflect prejudices in those who diagnose child abuse or neglect rooted in previous prejudiced studies? Has the incidence of child abuse or neglect really increased in recent years? Do white parents really maltreat their infants less often than blacks?²⁵ Do black parents in higher socioeconomic situations really abuse their children more often, or do we not look as carefully at similarly situated whites? Are girls really being maltreated more in recent years than formerly? There are no convincing reasons why the answers to these questions should be affirmative.

Why are poverty-level families not reported as often to Rhode Island's protective services unit? Without any real data to guide them, do the physicians and social workers caring for them consider such reporting less apt to be fruitful? Does reporting actually help anyone in any way? Does reporting in spite of the best intentions actually cause maltreating families to be discouraged and less capable?

If patients were to be assigned randomly either to inpatient (as occurs now with increasing frequency) or ambulatory status, which would be more likely to foster happy children and ultimately functioning adults? Do we have any firm evidence that there currently are any successful approaches (regardless of personnel, method or location) to prevent maltreatment or to treat abusing or neglecting families?¹⁴⁻¹⁷ Who knows? Who will find out?

Summary

Over a 13-year period 147 pediatric patients at Rhode Island Hospital were suspected of being abused or neglected. Gradual significant increases were noted in the annual number of these children recognized, in the proportion of these who were admitted to the hospital as inpatients, in the percentage reported to the state's protective services unit, in the percentage of girls, and in the proportion supposedly in little physical danger. Patients who were in the "poverty" socioeconomic level were less apt than others to be reported by the

hospital to the state's protective services unit. Although representing only one per cent of the state's population, black patients comprised 26 per cent of the patients, especially those under one year of age or in the "high" socioeconomic level.

It is hoped that these data will encourage long-term prospective studies of families (with a wide assortment of demographic characteristics) to determine the real incidence and importance of the various types of supposed childhood maltreatment, and the most efficient methods of preventing social, physical, and mental maldevelopment.

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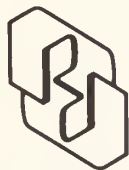
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Evaluation of Response Rates to Two Differing Types of Questionnaire Surveys

Hypothesis That Those Responding To One Questionnaire Are Likely To Respond To Others Is Apparently True

By Joseph A. Yacovone, DMD, MPH

Questionnaire surveys are used frequently by social and behavioral scientists to evaluate individual and group action.¹ Response rates to questionnaire surveys vary widely. An occasional questionnaire will elicit a reply from the majority of the people solicited, but the more usual situation is that the response rate for such surveys ranges from 50 per cent to less than 30 per cent.^{2,3,4} Questionnaire studies that request respondents to identify themselves in some way so that a second mailing may be made to those who fail to reply to the initial contact, or where some other form of follow-up contact is made with potential respondents, usually elicit a higher total response rate because of the reinforced solicitations.⁵⁻⁸ Two of the surveys conducted by the Division of Dental Health, Rhode Island Department of Health, have been questionnaire studies that were designed to determine the continuing education needs of dentists practicing in Rhode Island. The Survey of Continuing Education (1966)⁹ and the survey of Rhode Island Dentists' Interest in Continuing Education in Expanded Auxiliary Management (1976)¹⁰ showed response rates of 76

and 74.6 per cent respectively. Both studies utilized the follow-up mailing technique. Other surveys conducted by the Division of Dental Health, utilizing the single mailing technique, have fallen in the 35 to 45 per cent response range.^{11,12}

A single mailing survey, conducted by the Rhode Island Dental Association (RIDA)¹³ in November 1975 to determine the attitudes of the members of that organization relative to a proposed major revision of the State Dental Practice Law resulted in a response rate of 55.5 per cent, considerably below that which had been obtained on the surveys utilizing a follow-up questionnaire. This was surprising, as the revisions on which the RIDA membership was asked to voice approval or disapproval dealt with several issues that were highly controversial in nature, including registration of dental laboratory technicians and restructuring of the State Board of Dental Examiners. It had been expected that practically all members of the RIDA would want to make known their views on the issues involved and that response rates would equal, if not exceed, those obtained in studies that had utilized a follow-up mailing.

Because the response rate of the RIDA study coincided so closely with that obtained in other surveys in which a single mailing was utilized, it was hypothesized that the Rhode Island Dental Association and probably other

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similar organizations are composed of a core group which, because of an interest in research or a willingness to cooperate with research organizations, would respond to questionnaires almost regardless of the topic being studied, while another segment of the membership would not respond to any questionnaire. The fact that the Dental Practice Act (DPA) Survey and the 1976 Survey of Rhode Island Dentists' Interest in Continuing Education in Expanded Auxiliary Management were conducted within a few months of each other provided an opportunity to compare the respondent populations and to test the veracity of this hypothesis.

Objectives and Methodology

The objectives of this study were (a) to determine the extent of duplication among Rhode Island Dental Association members who responded to both the Dental Practice Act Survey and the 1976 Survey on Continuing Education, and (b) to ascertain if the two respondent groups were, in fact, the same population.

Each survey had requested identification of the doctor returning the questionnaire. In the case of the DPA Survey in which only RIDA members were contacted, the respondent signed the return card on which the vote was registered. Those returning the Continuing Education Survey questionnaire identified themselves by noting the doctor's name on the envelope in which the questionnaire was returned. Thus, it was possible to separate RIDA dentists from the total study population of the Continuing Education Survey (this questionnaire had been sent to all dentists practicing in Rhode Island whether or not they were RIDA members) and focus on RIDA members who had responded to both surveys. Data were derived for each study based on District (ie, local) Society membership¹⁴ as well as length of time since graduation from dental school.

Results

As shown in Table I, the response rates for RIDA members to the Dental Practice Act Survey (55.5 per cent) was somewhat greater than the response to the first mailing of the Continuing Education questionnaire (41.9 per cent), but less than the response to the

two mailings of the Continuing Education Survey (60.6 per cent). The Woonsocket District Society, with a total of 22 active members, had a high response rate both to the Dental Practice Act and the Continuing Education Survey (81.8 per cent in each instance) and, as might be expected, a relatively high rate of duplication of respondents (77.8 per cent) to both studies. Other smaller District Societies, such as Cranston with 41 active members, Bristol with 18 members, and Newport with 37 members, showed high duplication rates (95.2 per cent, 87.5 per cent, and 86.7 per cent respectively). The South County District, however, with only 29 members, showed that just 41.7 per cent of the responding doctors replied to both surveys. The Providence District, with the largest active membership (158), showed a moderate response rate to the Dental Practice Act Survey (60.1 per cent) and to the two mailings of the Continuing Education Study (57.6 per cent). In this district there was only limited duplication either when the Dental Practice Act was compared to the first mailing of the

Table 1. Number, Percent, and Degree of Duplication of Responses to Dental Practice Act and Continuing Education Studies by District Dental Society

District Society Membership N=470	Dental Practice Act Study		Continuing Education Questionnaire Study		Number Responding to both DPA and First Mailing and Percent of Duplication	Number Responding to both DPA and Two Mailings
	First Mailing	Second Mailing	First Mailing	Second Mailing		
Bristol (18)	8 (44.4)*	9 (50.0)*	5 (27.8)*	5 (27.8)*	5 (62.5)**	7 (87.5)**
Cranston (41)	21 (51.2)	18 (43.9)	14 (34.2)	15 (36.6)	15 (71.4)	20 (95.2)
Kent (68)	46 (67.7)	35 (51.5)	10 (14.7)	10 (14.7)	26 (56.5)	34 (73.9)
Newport (37)	15 (40.5)	17 (45.9)	7 (18.9)	7 (18.9)	9 (60.0)	13 (86.7)
Providence (158)	26 (55.3)	19 (40.4)	4 (8.5)	4 (8.5)	12 (46.2)	14 (53.9)
Providence (158)	95 (60.1)	65 (41.1)	26 (16.5)	26 (16.5)	45 (47.4)	56 (58.9)
S. County (29)	12 (41.4)	11 (37.9)	7 (24.1)	7 (24.1)	3 (25.0)	5 (41.7)
Woonsocket (22)	18 (81.8)	13 (59.1)	5 (22.7)	5 (22.7)	10 (55.6)	14 (77.8)
Life Members (46)	19 (41.3)	9 (19.6)	10 (21.7)	10 (21.7)	4 (21.1)	8 (52.1)
Affiliates (1)	1 (100)	1 (100)	0 (0)	0 (0)	1 (100)	1 (100)
R. I. Life Members (3)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
TOTALS	261 (55.5)	197 (41.9)	88 (18.7)	88 (18.7)	130 (49.8)	172 (65.9)

* Represents percent of District or Category Membership responding.

** Percent found by dividing number responding to both DPA and First Continuing Education Mailing or DPA and Both Continuing Education Mailings by the total number responding to DPA in each district.

Continuing Education Study (47.4 per cent) or to both mailings (58.9 per cent). For the Association as a whole, while 172 of the 285 respondents to both Continuing Education questionnaires also replied to the Dental Practice Act Survey (65.9 per cent duplication), only 130 (49.8 per cent) of those who responded to the first Continuing Education mailing were duplicated in the Dental Practice Act returns. Thus, it appears that only one out of every two RIDA respondents to the Dental Practice Act Survey also replied to the first mailing of the Continuing Education questionnaire.

Analysis of the respondents to both studies, according to the number of years that had elapsed since graduation from dental school (Table II), showed that those doctors who had been in practice from 17 to 26 years responded to a greater degree to the Dental Practice Act Survey (63 per cent) than did other age groups. Response rates for other groups ranged from 47 per cent for those respondents who graduated from dental school

more than 37 years ago to 56 per cent for those who graduated after 1970. The mean response rate for all groups of DPA respondents was 55.0 per cent with a standard deviation (δ) of 5.10. Differences in group response rates were not statistically significant.

Both the first mailing and the combined mailings of the Continuing Education questionnaire showed a progressive decline of respondents with progressing number of years since graduation from dental school. The first mailing of the Continuing Education Study showed a drop from a 56 per cent response rate in the group of dentists with less than seven years of practice experience to 25 per cent among those for whom more than 37 years have elapsed since graduation ($X = 43.2$, $\delta = 10.11$). When the combined mailings were considered, the percentage dropped from a 70 per cent response rate to 50 per cent over the same range of years since graduation from dental school ($X = 61.8$, $\delta = 6.71$). These data are presented graphically in Figure I. Comparison of RIDA re-

Table 2. Number and Percent of District Society Members Responding to the Dental Practice Act and Continuing Education Questionnaire According to the Number of Years Elapsed Since Graduation from Dental School

District Dental Society N=468 #	Years Since Graduation from Dental School																			
	Less than 7				7-16				17-26				27-36				37+ *			
	No. in Cat.	Continuing Education		DPA	No. in Cat.	Continuing Education		DPA	No. in Cat.	Continuing Education		DPA	No. in Cat.	Continuing Education		DPA	No. in Cat.	Continuing Education		DPA
		1st Mail	2nd Mail			1st Mail	2nd Mail			1st Mail	2nd Mail			1st Mail	2nd Mail					
Bristol N=19	4	1 (25)	2 (50)	1 (25)	4	3 (75)	1 (25)	2 (50)	6	3 (50)	1 (17)	4 (67)	3	2 (67)	1 (33)	1 (33)	2	0 (0)	0 (0)	0 (0)
Cranston N=44	2	2 (100)	0 (0)	1 (50)	9	4 (44)	3 (33)	6 (67)	12	4 (33)	5 (42)	6 (50)	14	7 (50)	3 (21)	7 (50)	7	1 (14)	4 (57)	3 (43)
Kent N=76	12	8 (67)	1 (8)	8 (67)	19	10 (53)	2 (11)	11 (58)	18	11 (61)	2 (11)	13 (72)	14	6 (43)	3 (21)	10 (71)	13	2 (15)	3 (23)	7 (54)
Newport N=39	9	9 (100)	0 (0)	3 (33)	9	2 (22)	3 (33)	3 (33)	5	2 (40)	0 (0)	3 (60)	9	3 (33)	3 (33)	4 (44)	7	1 (44)	3 (43)	2 (29)
Pawtucket N=47	1	0 (0)	0 (0)	1 (100)	8	3 (38)	1 (13)	5 (63)	15	5 (33)	3 (20)	7 (47)	13	10 (77)	0 (0)	7 (54)	10	1 (10)	0 (0)	2 (20)
Providence N=185	18	6 (33)	3 (17)	11 (61)	33	17 (52)	6 (18)	18 (55)	31	10 (32)	5 (16)	23 (74)	45	17 (38)	5 (11)	23 (51)	58	21 (36)	11 (19)	32 (55)
S. County N=30	9	4 (44)	2 (22)	5 (56)	9	4 (44)	2 (22)	3 (33)	3	3 (100)	0 (0)	0 (0)	4	0 (0)	0 (0)	2 (50)	5	0 (0)	3 (75)	2 (50)
Woonsocket N=28	4	3 (75)	0 (0)	3 (75)	6	2 (33)	1 (17)	5 (83)	3	2 (67)	1 (33)	3 (100)	7	5 (71)	2 (29)	5 (71)	8	2 (25)	3 (38)	4 (50)
TOTALS	59	33 (56)	8 (14)	33 (56)	97	45 (46)	19 (20)	53 (55)	93	40 (43)	17 (18)	59 (63)	109	50 (46)	17 (16)	59 (54)	110	28 (25)	27 (25)	52 (47)

Does not include one Honorary Member and one Life Member with no apparent District Society affiliation.

* Includes Life Members assigned according to District Society membership.

spondents with nonrespondents by year of graduation from dental school revealed insignificant differences insofar as the Dental Practice Act respondents were concerned. The respondents to the Continuing Education questionnaire mailings were slightly younger than their nonrespondent counterparts, but not significantly so.

The chi square test of significance¹⁵ was applied to test the original hypothesis. Chi square values of 10.87 ($p = < .001$) and 6.58 ($p = < 0.01$) were obtained when the Dental Practice Act respondent population was compared with Continuing Education mailings respectively. The chi square values indicated that a statistically significant relationship existed between the respondents to the DPA and Continuing Education questionnaire and thus supported the hypothesis that those dentists who responded to one questionnaire were likely to respond to the other.

Those doctors who had responded to both the Continuing Education and DPA questionnaires and those who had replied to neither

were then considered both by geographic location and the number of years since graduation from dental school, so as to determine whether the number of respondents or nonrespondents from any particular District Society was disproportionate to what logically might have been expected. These data are presented in Tables III and IV.

Three District Societies (Cranston, Kent, and Woonsocket) showed slightly more respondents than expected. Three others (Pawtucket, Providence, and South County) had slightly fewer respondents than expected. Bristol and Newport districts responded about as expected. Chi square analysis revealed no statistically significant misrepresentation of respondents by district ($p = > 0.30$), thus indicating that the respondent populations did, in fact, reflect the geographic distribution of the Rhode Island Dental Association membership. The same was found to be true for nonrespondents to both studies when that group was analyzed by District Society membership ($p = > 0.50$).

Figure 1. Percent Responses to Dental Practice Act Survey and to First and Both Mailings of Continuing Education Questionnaire

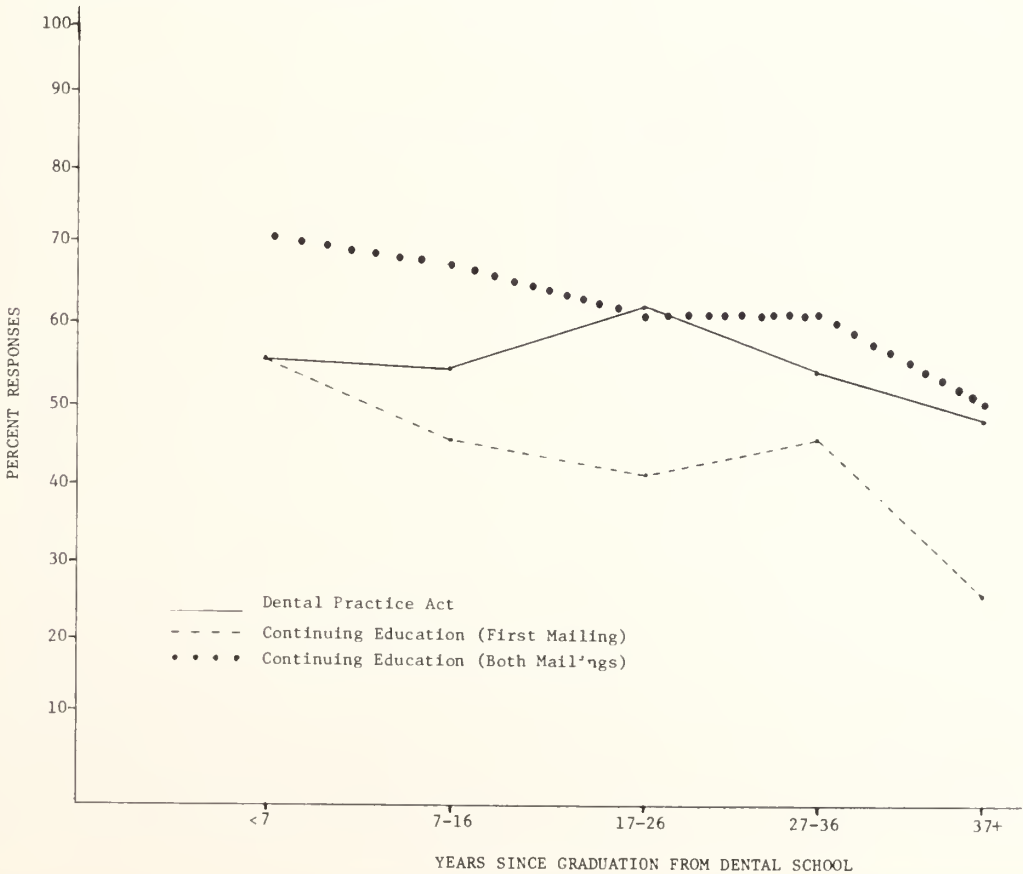


Table 3. Respondents and Nonrespondents to Dental Practice Act and Continuing Education Mailings Based on Dental Society Membership

District	Respondents to DPA and First Continuing Education Mailing N=130		Nonrespondents to DPA and First Continuing Education Mailing N=142		Respondents to DPA and Either Continuing Education Mailing N=172		Nonrespondents to DPA and Either Continuing Education Mailing N=96	
	Expected	Observed	Expected	Observed	Expected	Observed	Expected	Observed
Bristol (4.06%)	5.28	5	5.77	7	6.98	7	3.90	4
Crauston (9.40%)	12.22	15	13.34	18	15.17	21	9.02	9
Kent (16.24%)	21.11	26	23.06	18	27.93	34	15.59	15
Newport (8.33%)	10.63	9	11.83	15	14.33	13	8.00	11
Pawtucket (10.04%)	13.05	12	14.26	14	17.27	14	9.64	12
Providence (39.54%)	51.40	48	56.15	57	68.01	62	38.00	39
South County (6.41%)	8.33	5	9.10	9	11.03	7	6.14	4
Woonsocket (5.98%)	7.77	10	8.49	4	10.29	14	5.74	2

Table 4. Respondents and Nonrespondents to Dental Practice Act and Continuing Education Mailings Based on Year Since Graduation from Dental School

Year of Graduation	Respondents to DPA and First Continuing Education Mailing N=130		Nonrespondents to DPA and First Continuing Education Mailing N=142		Respondents to DPA and Either Continuing Education Mailing N=172		Nonrespondents to DPA and Either Continuing Education Mailing N=96	
	Expected	Observed	Expected	Observed	Expected	Observed	Expected	Observed
1970 - 1976 (12.61%)	16.39	16	17.91	11	21.69	21	12.11	6
1960 - 1969 (20.72%)	26.94	28	29.42	27	35.64	38	19.89	18
1950 - 1959 (19.87%)	25.83	30	28.22	24	34.18	41	19.08	19
1940 - 1949 (23.29%)	30.28	35	33.07	35	40.06	43	22.36	28
Prior to 1939 (23.51%)	30.56	19	33.38	45	40.44	29	22.57	25

Analysis of respondents by year since graduation from dental school showed a marked under-representation from what might have been expected of dentists who graduated prior to 1939. This age group also had a somewhat larger than expected number of nonrespondents to both studies. However, neither comparison was statistically significant ($p = >0.10$). It appeared that, when the age of the practitioner is considered, differences between the observed and expected numbers of respondents could have occurred by chance alone.

Conclusions

The hypothesis that people who respond to one questionnaire are likely to reply to other questionnaires appears to be true when the respondents to the RIDA Dental Practice Act Survey and those RIDA members returning the Continuing Education questionnaire are considered. Although only 55 per cent of the RIDA membership responded to the DPA Survey, 41.9 per cent to the first Continuing Education questionnaire, and 60.6 per cent to both Continuing Education mailings, the samples appeared to be representative of the parent association, both as to the geographic distribution of RIDA membership and the age groupings represented by its members as expressed by years since graduation from dental school.

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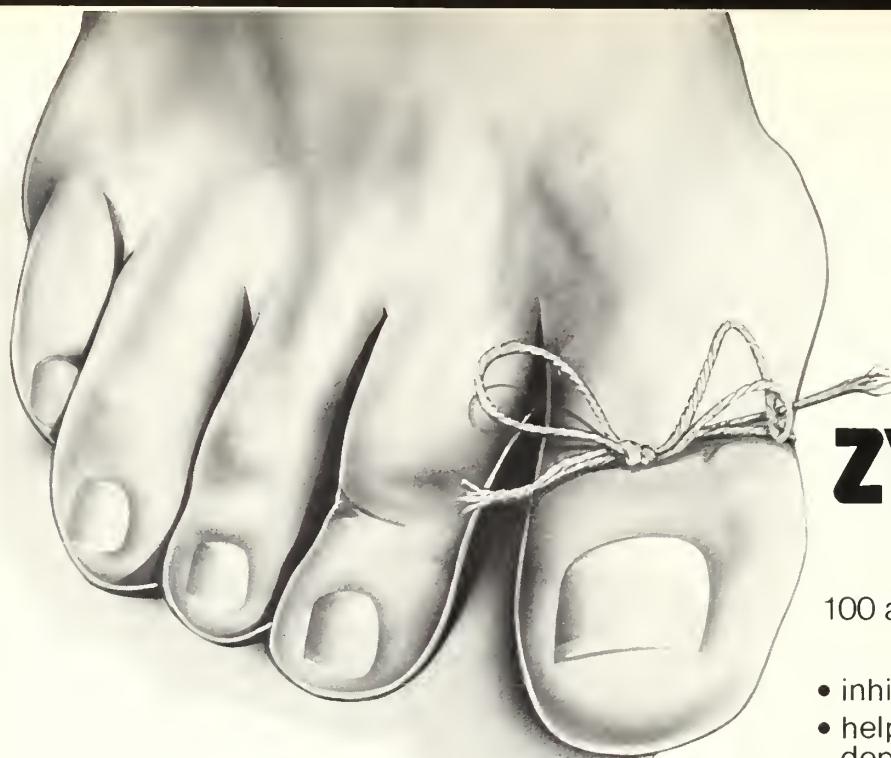


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Zyloprim[®] (allopurinol) is intended for

1. treatment of gout, either primary, or secondary to the hyperuricemia associated with blood dyscrasias and their therapy;
2. treatment of primary or secondary uric acid nephropathy, with or without accompanying symptoms of gout;
3. treatment of patients with recurrent uric acid stone formation;
4. prophylactic treatment to prevent tissue urate deposition, renal calculi, or uric acid nephropathy in patients with leukemias, lymphomas and malignancies who are receiving cancer chemotherapy with its resultant elevating effect on serum uric acid levels.

CONTRAINDICATIONS: Use in children with the exception of those with hyperuricemia secondary to malignancy. The drug should not be employed in nursing mothers.

Patients who have developed a severe reaction to Zyloprim should not be restarted on the drug.

WARNINGS: ZYLOPRIM SHOULD BE DISCONTINUED AT THE FIRST APPEARANCE OF SKIN RASH OR ANY SIGN OF ADVERSE REACTION. In some instances a skin rash may be followed by more severe hypersensitivity reactions such as exfoliative, urticarial and purpuric lesions as well as Stevens-Johnson syndrome (erythema multiforme) and very rarely a generalized vasculitis which may lead to irreversible hepatotoxicity and death.

A few cases of reversible clinical hepatotoxicity have been noted and in some patients asymptomatic rises in serum alkaline phosphatase or serum transaminase have been observed. Accordingly, periodic liver function tests should be performed during the early stages of therapy particularly in patients with pre-existing liver disease. Patients should be alerted to the need for due precautions when engaging in activities where alertness is mandatory.

Nevertheless, iron salts should not be given simultaneously with Zyloprim. This drug should not be administered to immediate relatives of patients with idiopathic hemochromatosis.

In patients receiving Purinethol[®] (mercaptopurine) or Imuran[®] (azathioprine), the concomitant administration of 300-600 mg of Zyloprim per day will require a reduction in dose to approximately one-third to one-fourth of the usual dose of mercaptopurine or azathioprine. Subsequent adjustment of doses of Purinethol or Imuran should be made on the basis of therapeutic response and any toxic effects.

Usage in Pregnancy and Women of Childbearing Age Zyloprim[®] (allopurinol) should be used in pregnant women or women of childbearing age only if the potential benefits to the patient are weighed against the possible risk to the fetus.

PRECAUTIONS: Some investigators have reported an increase in acute attacks of gout during the early stages of allopurinol administration, even when normal or sub-normal serum uric acid levels have been attained.

It has been reported that allopurinol prolongs the half-life of the anticoagulant, dicumarol. This interaction should be kept in mind when allopurinol is given to patients already on anticoagulant therapy, and the coagulation time should be reassessed.

A fluid intake sufficient to yield a daily urinary output of at least 2 liters and the maintenance of a neutral or, preferably, slightly alkaline urine are desirable to (1) avoid the theoretic possibility of formation of xanthine calculi under the influence of Zyloprim therapy and (2) help prevent renal precipitation of urates in patients receiving concomitant uricosuric agents.

Patients with impaired renal function require less drug and should be carefully observed during the early stages of Zyloprim administration and the drug withdrawn if increased abnormalities in renal function appear.

In patients with severely impaired renal function, or decreased urate clearance, the half-life of oxipurinol in the plasma is greatly prolonged. Therefore, a dose of 100 mg per day or 300 mg twice a week, or perhaps less, may be sufficient to maintain adequate xanthine oxidase inhibition to reduce serum urate levels. Such patients should be treated with the lowest effective dose, in order to minimize side effects.

Mild reticulocytosis has appeared in some patients.

As with all new agents, periodic determination of liver and kidney function and complete blood counts should be performed especially during the first few months of therapy.

ADVERSE REACTIONS:

Dermatologic. Because in some instances skin rash has been followed by severe hypersensitivity reactions, it is recommended that therapy be discontinued at the first sign of rash or other adverse reaction (see WARNINGS). Skin rash, usually maculopapular, is the adverse reaction most commonly reported. Exfoliative, urticarial and purpuric lesions, Stevens-Johnson syndrome (erythema multiforme) and toxic epidermal necrolysis have also been reported. A few cases of alopecia with and without accompanying dermatitis have been reported. In some patients with a rash, restarting Zyloprim (allopurinol) therapy at lower doses has been accomplished without untoward incident.

Gastrointestinal Nausea, vomiting, diarrhea, and intermittent abdominal pain have been reported.

Vascular There have been rare instances of a generalized hypersensitivity vasculitis or necrotizing angitis which have led to irreversible hepatotoxicity and death.

Hematopoietic Agranulocytosis, anemia, aplastic anemia, bone marrow depression, leukopenia, pancytopenia and thrombocytopenia have been reported in patients, most of whom received concomitant drugs with potential for causing these reactions. Zyloprim[®] (allopurinol) has been neither implicated nor excluded as a cause of these reactions.

Neurologic. There have been a few reports of peripheral neuritis occurring while patients were taking Zyloprim. Drowsiness has also been reported in a few patients.

Ophthalmic. There have been a few reports of cataracts found in patients receiving Zyloprim. It is not known if the cataracts predated the Zyloprim therapy. "Toxic" cataracts were reported in one patient who also received an anti-inflammatory agent; again, the time of onset is unknown. In a group of patients followed by Gutman and Yu for up to five years on Zyloprim therapy, no evidence of ophthalmologic effect attributable to Zyloprim was reported.

Drug Idiosyncrasy Symptoms suggestive of drug idiosyncrasy have been reported in a few patients. This was characterized by fever, chills, leukopenia or leukocytosis, eosinophilia, arthralgias, skin rash, pruritus, nausea and vomiting.

OVERDOSAGE: Massive overdosing, or acute poisoning, by Zyloprim has not been reported.

HOW SUPPLIED: 100 mg (white) scored tablets, bottles of 100 and 1000; 300 mg (peach) scored tablets, bottles of 30, 100 and 500. Unit dose packs for each strength also available.

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Teenage Pregnancy, An Overview

The Majority Of Adolescents Are Not Prepared To Make Responsible Decisions Regarding Sexuality

By Venetia Georas, MD

In spite of the numerous articles and the much publicized statistics in the medical and lay press on teenage pregnancy, a review of this problem as seen at the Planned Parenthood Clinic of Rhode Island and the Adolescent Primary Care Unit of the Rhode Island Hospital will be informative and helpful in directing all efforts toward prevention of this "epidemic".

Teenage pregnancy, a phenomenon of our times, is not confined to the avant garde communities such as Marin County, across the Golden Gate bridge from San Francisco and the wealthy New York City suburbs. Nor is it confined to the adolescent women of the urban ghettos. It affects all geographic areas and all cultural and socioeconomic strata.

Providence, Rhode Island is not different from the rest of the country. In a typical week 20 to 25 adolescent women turn up at the Planned Parenthood Clinic in Providence. They come primarily seeking contraceptive services. Invariably they come after having been sexually active for some time. They do not come to the clinic because they have reflected on the issues involved and have decided to use contraception prior to engaging in sexual activity. When they seek contraception they are afraid of becoming pregnant.

VENETIA GEORAS, MD, *Director of Adolescent Services, Planned Parenthood Clinic, Providence, Rhode Island; staff physician, Adolescent Primary Care Unit, Rhode Island Hospital, Providence, Rhode Island.*

Frequently they suspect they are pregnant, and often their suspicions are correct.

At times they come in groups from neighboring towns. Their ages range from 14 to 18, sometimes younger than 14. Only a small percentage come with parental knowledge. Information and supplies regarding contraception can be provided legally without parental consent. Should a minor be pregnant and choose to have an abortion, parental involvement is mandatory.

At the Adolescent Primary Care Unit of the Rhode Island Hospital teenage girls come for various reasons, some clearly medical and some psychosocial or behavioral. Frequently they present functional symptoms. In the latter categories the underlying reason for coming to the clinic is often a desire for contraceptive services, a suspicion of an unplanned pregnancy, and at times an unsuspected pregnancy.

Because neither the Planned Parenthood Clinic nor the Adolescent Primary Care Unit at the Rhode Island Hospital offer prenatal services, most of the pregnant teenagers we see elect to have an abortion. A few decide to continue the pregnancy to term, most of them have no other plans; to have the baby is the goal. When this decision is made, the responsibility of parenthood does not enter the picture realistically. Fewer plan to marry, and none in our experience has considered giving the baby up for adoption. This latter option is thought of as unacceptable, even inhumane.

The greater number of pregnant adolescents are neither emotionally disturbed nor

promiscuous. They just never thought that an unplanned pregnancy could really happen to them. And when it does happen they are frustrated, confused and distressed. They usually have a fair knowledge of the schematic models of reproductive systems taught in some biology or health classes. They have a fair knowledge of contraceptive methods, and some know they can obtain contraceptives legally. But how can a teenage girl make the decision to use contraceptives when she is struggling to balance the likely disapproval of her parents against the example of her friends and her own urges? For her, seeking contraceptives is equal to seeking sex. She resolves the conflict by accepting sex if it is natural and unplanned, risking of course a natural and unplanned pregnancy.

This is the major and most frequently encountered cause of an unwanted pregnancy in an intelligent and fairly well-adjusted adolescent girl.

In other instances confusing non-factual information from peers provides a shaky sense of security, which collapses with the occurrence of an unexpected pregnancy. It may be difficult to believe, but there are some young adolescent girls who are totally uninformed in sexual matters. Recent observations reveal that occasionally after a period of effective contraception some teenagers just "drop out" of contraception until a pregnancy occurs. For a time after an abortion contraception will be resumed, but frequently the cycle is repeated.

A smaller number of teenagers who become pregnant are maladjusted or emotionally disturbed. The specific motivations for pregnancy in this group may seem deeply irrational, but they have profound power and in their own way a kind of logic.

An example is Debbie, the 15-year-old who was brought to the Adolescent Primary Care Unit by a policeman because she fainted in the downtown area of the City. She came from a broken family. Her parents were divorced when Debbie was 9 years old. Her father had remarried; her mother lived with a boyfriend. An older sister aged 17, who was seven months pregnant, and four younger siblings lived with the mother. Debbie had not attended school for a year. She had left home on numerous occasions, had lived with

friends in several parts of the city, and for a time lived with a boyfriend who had fathered three children and whose mother was taking care of these children.

Debbie had no complaints. She did not suspect she was 10 weeks pregnant. After several counseling sessions it became apparent that she had a deeply strong desire to continue her pregnancy to term and have a baby of her own.

A cry for caring, as with Debbie, rejection, hopelessness, or loss of a parent by death or divorce are some of the emotional issues. In this group of teenagers either termination or continuation of pregnancy will not resolve the underlying problem. The recidivism rate is high unless the emotional issues are identified and appropriately handled.

No one is happy facing an unplanned pregnancy. Anxiety, confusion, and ambivalence prevail when an adolescent is faced with the reality of an unexpected pregnancy. The adolescent and her family need appropriate support and counseling, so that whatever decision is reached will be realistic and comfortable not only for this moment but for the future.

If the decision for an abortion is taken in a responsible way and with appropriate counseling, long-term sequelae may be minimal or absent. This author feels strongly that the majority of our adolescents are not prepared to make responsible decisions regarding their sexuality.

Abortion is not the solution to the problem of teenage pregnancy, but neither is teenage motherhood. Should abortion become a primary method of conception control? Should teenage motherhood become an accepted norm?

We should make every effort and use all resources in counseling adolescents in matters of sexuality, and in assisting them to develop a sense of responsibility to "self" and "others", so that an unplanned pregnancy can be prevented.

Abortion is and should be every woman's right, but it should be exercised in a responsible way.

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Contraindication: Previous hypersensitivity to penicillin.

Warnings: Serious, occasionally fatal, anaphylactoid reactions have been reported. Some patients with penicillin hypersensitivity have had severe reactions to a cephalosporin; inquire about penicillin, cephalosporin, or other allergies

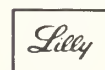
before treatment. If an allergic reaction occurs, discontinue the drug and treat with the usual agents (e.g., epinephrine or other pressor amines, antihistamines, or corticosteroids).

Precautions: Use with caution in individuals with histories of significant allergies and/or asthma. Do not rely on oral administration in patients with severe illness, nausea, vomiting, gastric dilatation, cardiospasm, or intestinal hypermotility. Occasional patients will not absorb therapeutic amounts given orally. In streptococcal infections, treat until the organism is eliminated (minimum of ten days). With prolonged use, nonsusceptible organisms, including fungi, may overgrow; treat superinfection appropriately.

Adverse Reactions: Hypersensitivity, including fatal anaphylaxis. Nausea, vomiting, epigastric distress, diarrhea, and black, hairy tongue. Skin eruptions, urticaria, reactions resembling serum sickness (including chills, edema, arthralgia, prostration), laryngeal edema, fever, and eosinophilia. Infrequent hemolytic anemia, leukopenia, thrombocytopenia, neuropathy, and nephropathy, usually with high doses of parenteral penicillin. (102175)

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Special Book Review

THE FAMILY by David Plante. New York, Farrar, Strauss, Giroux, 1978.

The Family is local; it will be read and especially enjoyed by Rhode Islanders. David Plante, living in London since 1966, has written about his family of French-Canadian origin in what seems to be the Manton Avenue or Academy Avenue section of Providence. His father worked "in a file factory" which it is difficult to mistake for anything but the old Nicholson File, no longer in Providence. All of the boys, and there were seven, attended LaSalle Academy; one went to MIT, another to Boston College. There were sons in the Air Corps, the Navy, and the Marines during World War II.

That is the narrow sense of the family, but the Francour family which Plante portrays is not just a large French-Canadian family living in Providence whose progenitors had emigrated from Canada a generation before, but is *the family* of history in its generic sense, and is a social institution. It is a novel of realism. It is a coincidence that C. P. Snow has recently published another series of his short biographical sketches of 19th century authors titled *The Realists*. One of Snow's eight subjects is Henry James. One of Plante's first books is *The Ghost of Henry James*. All of which is to say that this is a novel in the "realist" sense of real time, place, and people. He is very real to local readers.

The Family is the biography of the life and death of a family of seven boys. It is the success and failure, financial and social, of the family as a whole, and of its parts. It is a record of the old morality and moderate excursions into the new. The characters are all credible; they are people whom we have known. The capabilities of the boys extend the gamut of human potential. There is a son bright enough to graduate from MIT; there is another who may not have graduated from high school. All nominally practice their devout French Catholic religion.

There is one who took it seriously, and one who left the family and the church. There is the honest, independent father, unskilled in the ways of the world or the ways of men, whose great virtue is his steady work; whose failing is his ignorance of the caprices and insincerity of his fellow man. There is the wise Cure with his own vested interest; there is the vested interest of the labor union. Above all there is the mother whose nobility has been portrayed by many a writer, and one no less than the author of *Ecclesiastes* and the *Proverbs*.

Through hard work and the practice of simple virtues the family is held together. It survives, and in broad terms turns out well. The French writer Camus once said "Life is absurd." As portrayed by David Plante, life is still absurd. However, in Plante's eyes it may be a little bit less absurd in the Francour family than with others. But inescapably, it is absurd, "for sooner or later it will break your heart", said Camus. In the end several hearts, if not broken, are saddened. The novel ends, in the epic sense, tragically, as all life does.

One would judge that *The Family* is a biographical sketch of Plante's own family. The values and ethics which he portrays for the family he is familiar with. In a very deep sense he is a protagonist for the simple Roman Catholic morality, virtues and ethics of a generation back. He points out the real value it has in giving identity to at least some people. To this reviewer he says that in this most imperfect world, where nothing is perfect, the way of life which he knew may not have been the best, but was far from the worst. For a life-long resident of Providence, reading *The Family* in a sense is visiting with the boys and family next door. For a physician it's making house calls again as a family physician.

Robert V. Lewis, MD

Books Received for Review

THE BRAND NAME CARBO-CALORIE DIET by Donald D. Mart. Garden City, New York, Doubleday, 1979. \$9.95

PHYSICIAN'S HANDBOOK by Marcus A. Krupp, et al. 19th Edition. Los Altos, California, Lange, 1979.

CRY BABEL: The Nightmare of Aphasia and a Courageous Woman's Struggle to Rebuild Her Life by April Oursler Armstrong. Garden City, New York, Doubleday, 1979. \$8.95

WEBSTER'S MEDICAL OFFICE HANDBOOK by Anne H. Soukhanov, gen ed and John Rhodes Haverty, MD, FAAP, consulting ed. Springfield, Massachusetts, G & C Merriam Company, Publishers, 1979. \$10.95.

HOW TO GET ALONG WITH YOUR STOMACH: A Complete Guide To the Prevention And Treatment Of Stomach Distress by Nancy Nugent. Garden City, NY, Anchor, 1979. \$3.95

PRINCIPLES OF CLINICAL ELECTROCARDIOGRAPHY by M.J. Goldman. Los Altos, California, Lange, 1979. \$12.00

CORRELATIVE NEUROANATOMY AND FUNCTIONAL NEUROLOGY by Joseph G. Chusid, MD. Los Altos, California, Lange, 1979. \$12.00

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Brief Summary

INDICATION: Tenuate and Tenuate Dospan are indicated in the management of exogenous obesity as a short-term adjunct (a few weeks) in a regimen of weight reduction based on caloric restriction. The limited usefulness of agents of this class should be measured against possible risk factors inherent in their use such as those described below.

CONTRAINDICATIONS: Advanced arteriosclerosis, hyperthyroidism, known hypersensitivity, or idiosyncrasy to the sympathomimetic amines, glaucoma. Agitated states. Patients with a history of drug abuse. During or within 14 days following the administration of monoamine oxidase inhibitors, (hypertensive crises may result).

WARNINGS: If tolerance develops, the recommended dose should not be exceeded in an attempt to increase the effect; rather, the drug should be discontinued. Tenuate may impair the ability of the patient to engage in potentially hazardous activities such as operating machinery or driving a motor vehicle. The patient should therefore be cautioned accordingly. **Drug Dependence:** Tenuate has some chemical and pharmacologic similarities to the amphetamines and other related stimulant drugs that have been extensively abused. There have been reports of subjects becoming psychologically dependent on diethylpropion. The possibility of abuse should be kept in mind when evaluating the desirability of including a drug as part of a weight reduction program. Abuse of amphetamines and related drugs may be associated with varying degrees of psychologic dependence and social dysfunction which, in the case of certain drugs, may be severe. There are reports of patients who have increased the dosage to many times that recommended. Abrupt cessation following prolonged high dosage administration results in extreme fatigue and mental depression, changes are also noted on the sleep EEG. Manifestations of chronic intoxication with anorectic drugs include severe dermatoses, marked insomnia, irritability, hyperactivity, and personality changes. The most severe manifestation of chronic intoxications is psychosis, often clinically indistinguishable from schizophrenia. **Use in Pregnancy:** Although rat and human reproductive studies have not indicated adverse effects, the use of Tenuate by women who are pregnant or may become pregnant requires that the potential benefits be weighed against the potential risks. **Use in Children:** Tenuate is not recommended for use in children under 12 years of age.

PRECAUTIONS: Caution is to be exercised in prescribing Tenuate for patients with hypertension or with symptomatic cardiovascular disease, including arrhythmias. Tenuate should not be administered to patients with severe hypertension. Insulin requirements in diabetes mellitus may be altered in association with the use of Tenuate and the concomitant dietary regimen. Tenuate may decrease the hypotensive effect of guanethidine. The least amount feasible should be prescribed or dispensed at one time in order to minimize the possibility of overdosage. Reports suggest that Tenuate may increase convulsions in some epileptics. Therefore, epileptics receiving Tenuate should be carefully monitored. Titration of dose or discontinuance of Tenuate may be necessary.

ADVERSE REACTIONS: **Cardiovascular:** Palpitation, tachycardia, elevation of blood pressure, precordial pain, arrhythmia. One published report described T-wave changes in the ECG of a healthy young male after ingestion of diethylpropion hydrochloride. **Central Nervous System:** Overstimulation, nervousness, restlessness, dizziness, jitteriness, insomnia, anxiety, euphoria, depression, dysphoria, tremor, dyskinesia, mydriasis, drowsiness, malaise, headache; rarely psychotic episodes at recommended doses. In a few epileptics an increase in convulsive episodes has been reported. **Gastrointestinal:** Dryness of the mouth, unpleasant taste, nausea, vomiting, abdominal discomfort, diarrhea, constipation, other gastrointestinal disturbances. **Allergic:** Urticaria, rash, ecchymosis, erythema. **Endocrine:** Impotence, changes in libido, gynecomastia, menstrual upset. **Hematopoietic System:** Bone marrow depression, agranulocytosis, leukopenia. **Miscellaneous:** A variety of miscellaneous adverse reactions has been reported by physicians. These include complaints such as dyspnea, hair loss, muscle pain, dysuria, increased sweating, and polyuria.

DOSAGE AND ADMINISTRATION: Tenuate (diethylpropion hydrochloride) One 25 mg tablet three times daily, one hour before meals, and in mid-evening if desired to overcome night hunger. Tenuate Dospan (diethylpropion hydrochloride) controlled-release One 75 mg tablet daily, swallowed whole, in mid-morning. Tenuate is not recommended for use in children under 12 years of age.

OVERDOSAGE: Manifestations of acute overdosage include restlessness, tremor, hyperreflexia, rapid respiration, confusion, assaultiveness, hallucinations, panic states. Fatigue and depression usually follow the central stimulation. Cardiovascular effects include arrhythmias, hypertension or hypotension and circulatory collapse. Gastrointestinal symptoms include nausea, vomiting, diarrhea, and abdominal cramps. Overdose of pharmacologically similar compounds has resulted in fatal poisoning, usually terminating in convulsions and coma. Management of acute Tenuate intoxication is largely symptomatic and includes lavage and sedation with a barbiturate. Experience with hemodialysis or peritoneal dialysis is inadequate to permit recommendation in this regard. Intravenous phenitoin (Regimine®) has been suggested on pharmacologic grounds for possible acute, severe hypertension, if this complicates Tenuate overdosage.

Product Information as of April, 1976

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References: 1. Citations available on request—Medical Research Department, MERRELL RESEARCH CENTER, MERRELL-NATIONAL LABORATORIES, Cincinnati, Ohio 45215. 2. Hoekenga, M.T., O'Dillon, R.H., and Leyland, H.M. A Comprehensive Review of Diethylpropion Hydrochloride. International Symposium on Central Mechanisms of Anorectic Drugs, Florence, Italy, Jan. 20-21, 1977.

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Many patients, on the other hand, present with excess fat but no disease. While this condition is often termed uncomplicated obesity, complications of both a social and a psychologic nature may be distressingly real for the patients. In these cases, a short-term regimen of Tenuate can help reinforce your dietary counsel during the important early weeks of an indicated weight loss program.

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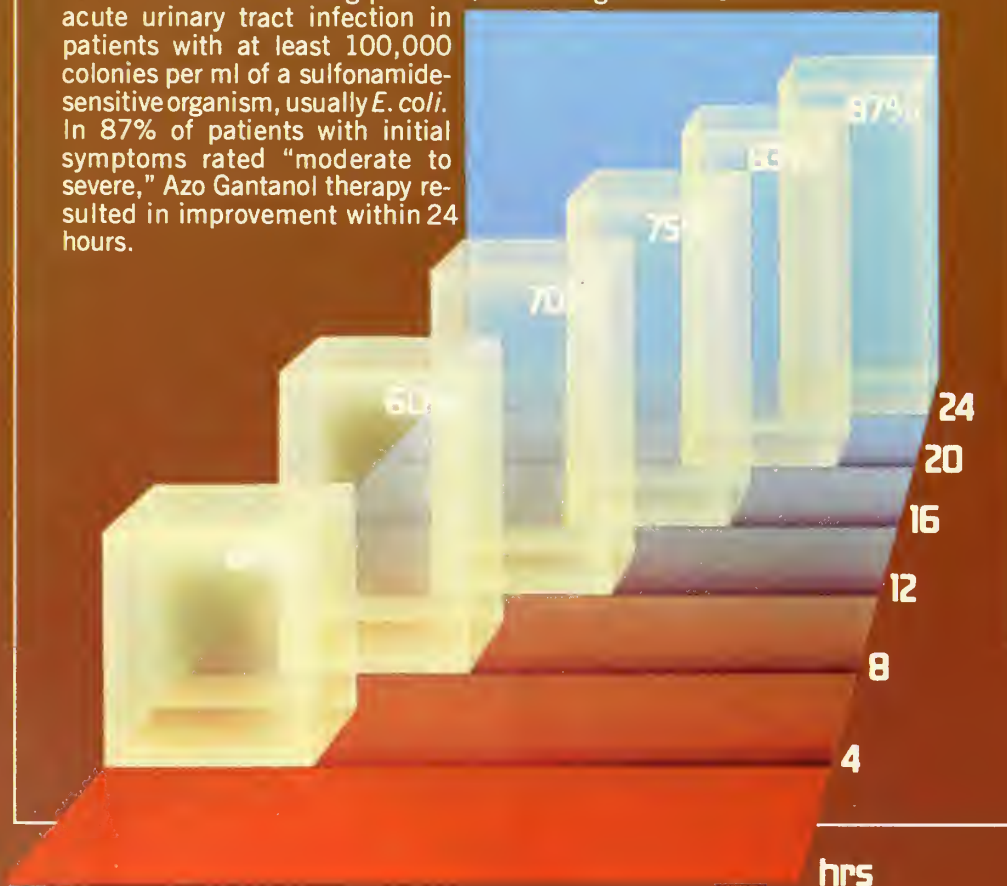
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the pathogens

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Contraindications: Children below age 12; sulfonamide hypersensitivity; pregnancy at any time during nursing period; because Azo Gantanol contains phenazopyridine hydrochloride it is contraindicated in glomerulonephritis, severe hematuria, and pyelonephritis of pregnancy with disturbances.

Warnings: Safety during pregnancy not established. Deaths from hypersensitivity reactions, agranulocytosis, aplastic anemia and other blood disorders have been reported and early clinical signs (throat, fever, pallor, purpura or jaundice) indicate serious blood disorders. Frequent urinalysis with microscopic examination is recommended during sulfonamide therapy.

Precautions: Use cautiously in patients with impaired renal or hepatic function, severe bronchial asthma; in glucose-6-phosphate dehydrogenase-deficient individuals in whom dose-related hemolysis may occur. Maintain adequate fluid intake to prevent crystalluria and stone formation.

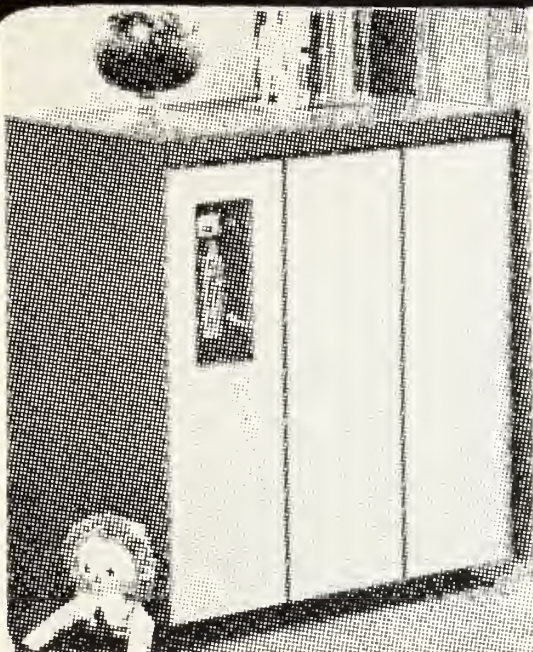
Adverse Reactions: Blood dyscrasias (agranulocytosis, aplastic anemia, thrombocytopenia, leukopenia, hemolytic anemia, purpura, thrombinemia and methemoglobinemia); skin reactions (erythema multiforme, skin eruptions, Stevens-Johnson syndrome, epidermal necrolysis, urticaria, serum sickness, pruritus, exfoliative dermatitis, anaphylactoid reactions, peripheral edema, conjunctival and scleral injection, sensitization, arthralgia and allergic myalgia); *G.I. reactions* (nausea, emesis, abdominal pain, hepatitis, diarrhea, anorexia, pancreatitis, stomatitis); *CNS reactions* (headache, neuritis, mental depression, convulsions, hallucinations, tinnitus, vertigo and insomnia); *miscellaneous reactions* (drug fever, cholelithiasis, nephrosis with oliguria and anuria, pericarditis, nodosa and L. E. phenomenon). Due to chemical similarities with some goitrogens, uretics (acetazolamide, thiazides) and hypoglycemic agents, sulfonamides have caused instances of goiter production, diuresis and glycosuria. Cross-sensitivity with these agents may exist.

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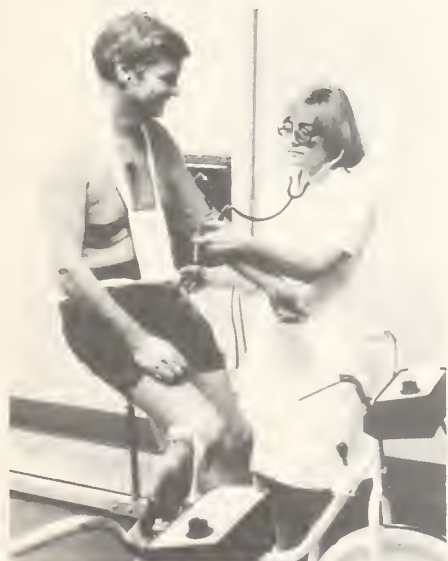
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Editorial

Recombinant DNA and the Future of Medical Research

Physicians have a vital interest in recombinant DNA research. The good which may come is immense. The production of vaccines against a host of difficult-to-grow viruses is not only possible, but quite realistic. A vaccine against infectious hepatitis is a good, but only one example. The production of scarce drugs, now only experimentally available in small natural supplies, can practically and economically be reproduced not only for clinical research but for clinical needs. Interferon is a typical and good choice. Most medical research moves on the groundwork of basic science; an understanding of the chromosome is quite within our grasp using recombinant DNA as a tool.

Recombinant DNA research now is curtailed by restrictions begun in 1974 when there was a voluntary temporary moratorium on experiments, which were then formalized in the recommendations of the Asilomar Conference of 1975. The National Institutes of Health set up a committee to receive the Asilomar Conference report and, despite serious reservations by some members and much argumentation, came out (June 1976) with guidelines which were tougher than these proposed by the Asilomar conferees. The media as usual were not slow to raise the fears of the community, so that Congress became involved. Almost immediately Senator Edward M. Kennedy, as well as many prominent members of the House of Representatives, began moving for Congressional recommendations. For over a year it looked as if punitive legislation would result, but as the hysterics calmed down, this possibility gradually receded, and in the spring of 1978 Senator Kennedy completely reversed his position.

Initially the guidelines applicable for Americans were much tougher than for Europeans, but over the past six months the American rules have been greatly relaxed as a result of much effort by the same scientists who so naively proposed regulating themselves at Asilomar. Now it is much easier to work on

recombinant DNA in the United States, but we expect soon that most European countries will follow suit.

Now the only real force standing between total abolition of virtually all guidelines is Secretary Joseph A. Califano of HEW. Rejecting the recommendation of NIH Director, Donald S. Fredrickson, the Secretary is not only calling for an unnecessary round of expensive risk-essential experiments but has seen that the Recombinant DNA Advisory Committee has a sizable component of laymen. This egalitarian, populist, consumer approach can only further delay purposeful recombinant DNA research. The concept of prior constraint and restraint, in medicine as in law, intellectually must be seriously suspect. Man's capacity to fear the unknown, whether it be falling off the edge of the flat world, encountering sea monsters beyond Gibraltar, or an invasion of men from Mars can weigh more heavily than abstract reasoning. All responsible people must rally to the support of reason, which in this instance is a deregulation of recombinant DNA research. National pride alone is not enough in hoping that our research will be foremost in the world. As physicians we have an obligation to make available the great potential that recombinant DNA holds for all of us.

Robert V. Lewis, MD

Treatment of Stress Ulcers

Gastric erosions and bleeding, commonly referred to as stress ulcerations, occur in critically ill and injured patients and are associated with a significant mortality. The development of intensive care units and the impressive advances in supportive care have led to the prolongation of life in patients formerly considered to be beyond hope. Erosive gastritis, stress ulcers, and gastric hemorrhage have been associated with burns,

head injuries, large operations, trauma, respiratory failure, hypotension, sepsis, and jaundice. In critical patients it may be a prominent part of multiple organ failure.

The etiology of these ulcers is directly related to a high concentration of hydrogen ions in the fluid in contact with the mucosal cells. Reduction in the hydrogen ion concentration in the stomach is an important element in the prevention and control of stress ulceration. The advent of cimetidine, a histamine H₂ receptor antagonist, has been an important tool in the control of gastric acidity in such patients.

Herrmann and Kaminski¹ compared the efficacy of nasogastric suction, intragastric antacid instillation (Maalox® or Amphojel®), and intravenous cimetidine administration in twelve patients, applied consecutively in random order. The pH was measured by an intragastric probe. Nasogastric suction was associated with a constant pH less than 2.0. Those on antacid therapy had a mean pH of 4.8, while those on cimetidine had a pH consistently greater than 5.0. The authors concluded that antacid therapy is better than nasogastric suction for this purpose, but cimetidine was clearly more effective than antacid in maintaining a high pH.

Martin et al² studied 39 critically ill patients in whom cimetidine was used in an attempt to keep the pH level above 4.0 as a prophylactic measure against stress ulcer. In 11 of the 39 patients cimetidine alone did not effect a consistent level of the gastric pH above 4. Of the 11 patients, 9 had positive blood cultures or clinical infection and 5 also developed renal failure. Five comatose patients never had a pH above 4 on cimetidine alone. The mortality among those who failed to respond to cimetidine alone was five times greater than for those who responded favorably. In such patients careful monitoring is essential, and the addition of an antacid is necessary. They recommend monitoring in comatose patients, those with four or more organ system injuries, patients receiving total parenteral nutrition, those in renal failure, and those with sepsis. They also suggest that failure of cimetidine may be an indicator of local or remote sepsis.

Thus it appears that, while cimetidine is an important agent for the prevention and treat-

ment of stress ulcer, antacids still have a significant role in the severely stressed critically ill patient.

References

¹Herrmann V, Kaminski DL: Evaluation of intragastric pH in acutely ill patients. *Arch Surg* 114:511-514, Apr 79

²Martin LF, Staloch DK, Simonowitz DA, Dellinger EP, Max MH: Failure cimetidine prophylaxis in the critically ill. *Arch Surg* 114:492-496, Apr 79

Editor's Mailbox

Amniocentesis Testing in Rhode Island

To The Editor:

In a recent issue of the *Rhode Island Medical Journal* (62:119, Apr 79) Richardson *et al* reported their study of 76 amniotic fluid samples processed from July 1974 to December 1977. Included in that article are the results of amniocentesis testing done by the Child Development Center at the Rhode Island Hospital, quoted from a paper by Barsel *et al*, which appeared in an earlier issue of the *Journal* (61:273-278, Jul 78).

To avoid any misunderstanding, I should like to point out that the Cytogenetics Laboratory at the Rhode Island Hospital performs chromosome analyses on amniocentesis fluids from other sources as well as from the Child Development Center. For the period of time reported by Richardson *et al* the Cytogenetics Laboratory processed 97 amniotic fluid specimens, as contrasted to 76 specimens from The Miriam Hospital, listed in Richardson's Table II.

Teresita Padre-Mendoza, MD
Director, Cytogenetics Laboratory
Rhode Island Hospital

Guest Editorial

Doctors Fees and Health Costs

By Keith B. Leffler

In a recent speech before the Association of American Medical Schools, the Secretary of the Department of Health, Education and Welfare, Joseph Califano, announced a new "first tenet" of national policy towards the health care professions.

Secretary Califano proclaimed that the United States faces a severe "oversupply" of doctors in the coming decade. Only last year, the Department of Commerce issued a widely quoted report by its Council on Wage and Price Stability that anticipated the Secretary's announcement by also emphasizing concern over a surplus of physicians. Both Secretary Califano and the council agree that the "chief effect of physician oversupply is dramatically rising costs." This conclusion is duly noted as being contrary to the laws of supply and demand and the policy makers allege "the forces of supply and demand have been overturned in the market for physician services."

The proclaimed oversupply of doctors and the impotency of the marketplace in controlling the problem has fortunate consequences for HEW.

Secretary Califano emphasizes that the solution to escalating health care costs lies in a "substantive partnership between the federal government and the providers of health care." For over 15 years, the Department of Health, Education and Welfare has actively supported the adoption of an extensive national health

insurance (NHI) plan. Presumably such support arises from the personal conviction of HEW staff and also from the beneficial expansion of HEW power and size that would be a result of the regulatory powers conferred under an NHI plan. Recent interest and debate on NHI has centered exactly on the potential for cost control by direct government intervention in the marketplace.

An Innocuous Alternative?

Certainly, the failure of the medical care marketplace to efficiently regulate itself makes government regulation and control seem an innocuous alternative. Yet, it is exactly the growing government intervention into this sector that is responsible for the current high cost of health care. Indeed, just as spraying a fire with gasoline will douse fire only when the laws of physics are repealed, increased government intervention will control health care costs only when the laws of economics are repealed. Politicians have no difficulty with such considerations; they simply announce that supply and demand doesn't work. Yet what is the evidence on this issue? Do the economics of supply and demand explain the costs of health care and also effectively regulate this market?

Until quite recently, the major government concern with the supply of physicians was a shortage believed to be caused by organized medicine's restrictions on medical school accreditation and licensing examinations. Only last year the Federal Trade Commission issued a report emphasizing restriction-of-entry problems in physician supply. The theory was that medical groups were seeking to restrict entry to the medical profession as a means of keeping incomes high. It must have come as good news to organized medicine, therefore, to hear Secretary Califano's suggestion that medical school enrollment and foreign physician immigration be restricted.

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KEITH B. LEFFLER, *Assistant Professor of Economics, University of Washington, Seattle, Washington*

Only some 15 years ago, the legislative debate preceding the 1965 passage of the Medicare-Medicaid programs centered on the inadequate supply of physicians and the resulting "excessive" cost of medical care to the aged and poor members of society. Subsequent government programs subsidized the consumption of medical care for a substantial portion of American families. The result was greatly increased medical care costs. Just as the 1973 Russian wheat demand pushed up wheat prices. The post-1965 increases in the demand for health care generated rapid health care price increases.

Since 1965, average family health care expenditures have more than tripled. In the first four years of the Medicare-Medicaid programs, physicians' incomes increased 50%. The forces of supply and demand were clearly at work, though not quite in the fashion government might have hoped.

Extensive national health insurance plans, such as that repeatedly supported by Senator Edward Kennedy, would remove most financial disincentives to the consumption of health care. Medical treatment for minor colds, aches and pains, or hypochondriac reassurance would no longer imply sacrifice of a martini lunch or dinner at McDonald's for the kids. Of course, absorption of medical care financing by the government in no way alters the true cost of a hospital bed or one-half hour of a physician's time, even though the cost is obscured in a myriad of taxes. How then might "government partnership" control cost when the direct impact is only to raise prices? Here the oversupply scenario plays a crucial role.

In traditional supply and demand controlled markets, a greatly increased demand increases price which in turn stimulates supply. In turn, the increased supply eventually controls the high costs that arose from the original demand increase.

Secretary Califano argues that such responses do not apply to the health care sector. This belief is buttressed by reference to studies done both by economists and by the Council on Wage and Price Stability. These studies have shown that a high number of surgeons in an area is accompanied by high per capita surgery rates and high surgical fees. The explanation for physicians' good fortune in having their surplus supply "cause" high prices (and thereby making it necessary for the gov-

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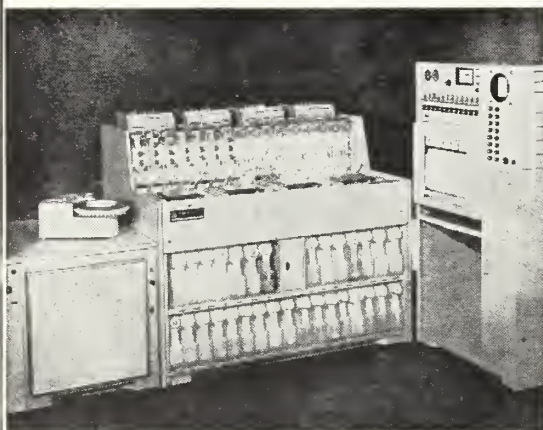
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ernment partnership to control costs) lies in the notion that doctors individually control their incomes. When surpluses arise, physicians are alleged to simply raise fees and expand demand by prescribing "unnecessary" surgery, diagnostic procedures and follow-up visits.

Contrary to the oversupply scenario, nearly all the facts about the market for physicians suggest a market closely regulated by the classic forces of economics.

The presumed passivity of patients to the provision of excessive, expensive medical care rests upon the presence of substantial third party reimbursement for physician care. However, while the government and private insurers on average pay 65% of doctors' bills, medical care is still expensive. For all but a morose few, a visit to the doctor is a disagreeable and frequently painful way to spend one's afternoon. We laymen may be somewhat ignorant of the true beneficial results of various medical procedures, but consistently high costs, whether in terms of the dollar bill or in terms of time, inconvenience and pain, will influence our propensity to visit the doctor.

Alternatively, it's argued that rather than expand services, physicians may simply raise fees to reach their desired incomes. Yet, the success of this strategy denies the actual existence of a sizable segment of the population who do pay their own bills.

The facts do, however, persist. Where there are more surgeons, there is more, higher cost surgery; where there are more internists, there are more internal problems.

Rather than the destruction of supply and demand, the explanation may be patently simple. The location of physicians is not determined by lottery. Among other factors, doctors locate where there is a demand for their services. Just as diesel mechanics tend to locate on interstate highways and diesel repairs are highest on these highways, surgeons and surgical rates will be greater where people get the sickest.

In addition, physicians are likely to be somewhat immobile compared to the general population. At a point in time, the area with the highest demand for surgery may simultaneously have the highest surgical fees and also the most surgeons. Again, truck mechanics may be the most prevalent and highest paid along a new highway that is particularly hard on trucks.

Finally, patients react to the presence both of doctors and of the latest in medical technology. Rural patients may flock to cities with the best equipment and the most surgeons. Data relating the usage and the fees of physicians to presence of physicians cannot alone hope to overturn the forces of supply and demand.

Contrary to the oversupply scenario, nearly all facts about the market for physicians suggest a market closely regulated by the classic forces of economics.

For example, the high cost of specialty training in terms of time explains the patterns of physician incomes and fees across specialties quite well. Are we to believe surgeons simply desire higher incomes than internists and internists higher incomes than general practitioners?

Comparatively Lower Income

Perhaps most suggestive of the actual nature of the medical market is the response of physician incomes to the increasing supply of doctors since 1970—they have not kept pace with inflation. Compared to the average college graduate, physicians earned relatively less in 1976 than they did in 1970. This is exactly the response to increased supply predicted by the laws of economics. Again, are we to believe physicians' desire for income simply fell?

The costs of medical care of 1976 are certainly high and the market has not completely reacted to the rapid substitution of a third party for direct consumer payment. Yet experience with government attempts to generate efficiency and control costs is not encouraging. Prior to attempting the potentially high cost policy of increased government partnership in health care, the government can exploit a number of opportunities to lower the cost of health care.

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August, 1979

Vol. 62, No. 8



Charles Value Chapin

1856 - 1941

38th Chapin Oration, page 297

Chapin and the Confident Years, page 313

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The effectiveness of Valium (diazepam/Roche) in long-term use, that is, more than 4 months, has not been assessed by systematic clinical studies. The physician should periodically reassess the usefulness of the drug for the individual patient.

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Warnings: Not of value in psychotic patients. Caution against hazardous occupations requiring complete mental alertness. When used adjunctively in convulsive disorders, possibility of increase in frequency and/or severity of grand mal seizures may require increased dosage of standard anticonvulsant medication; abrupt withdrawal may be associated with temporary increase in frequency and/or severity of seizures. Advise against simultaneous ingestion of alcohol and other CNS depressants. Withdrawal symptoms (similar to those with barbiturates and alcohol) have occurred following abrupt discontinuance (convulsions, tremor, abdominal and muscle cramps, vomiting and sweating). Keep addiction-prone individuals under careful surveillance because of their predisposition to habituation and dependence.

Usage in Pregnancy: Use of minor tranquilizers during first trimester should almost always be avoided because of increased risk of congenital malformations as suggested in several studies. Consider possibility of pregnancy when instituting therapy; advise patients to discuss therapy if they intend to or do become pregnant.

Precautions: If combined with other psychotropics or anticonvulsants, consider carefully pharmacology of agents employed, drugs such as phenothiazines, narcotics, barbiturates, MAO inhibitors and other antidepressants may potentiate its action. Usual precautions indicated in patients severely depressed, or with latent depression, or with suicidal tendencies. Observe usual precautions in impaired renal or hepatic function. Limit dosage to smallest effective amount in elderly and debilitated to preclude ataxia or oversedation.

Side Effects: Drowsiness, confusion, diplopia, hypotension, changes in libido, nausea, fatigue, depression, dysarthria, jaundice, skin rash, ataxia, constipation, headache, incontinence, changes in salivation, slurred speech, tremor, vertigo, urinary retention, blurred vision. Paradoxical reactions such as acute hyperexcited states, anxiety, hallucinations, increased muscle spasticity, insomnia, rage, sleep disturbances, stimulation have been reported; should these occur, discontinue drug. Isolated reports of neutropenia, jaundice; periodic blood counts and liver function tests advisable during long-term therapy.

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before treatment. If an allergic reaction occurs, discontinue the drug and treat with the usual agents (e.g., epinephrine or other pressor amines, antihistamines, or corticosteroids).

Precautions: Use with caution in individuals with histories of significant allergies and/or asthma. Do not rely on oral administration in patients with severe illness, nausea, vomiting, gastric dilatation, cardiospasm, or intestinal hypermotility. Occasional patients will not absorb therapeutic amounts given orally. In streptococcal infections, treat until the organism is eliminated (minimum of ten days). With prolonged use, nonsusceptible organisms, including fungi, may overgrow; treat superinfection appropriately.

Adverse Reactions: Hypersensitivity, including fatal anaphylaxis. Nausea, vomiting, epigastric distress, diarrhea, and black, hairy tongue. Skin eruptions, urticaria, reactions resembling serum sickness (including chills, edema, arthralgia, prostration), laryngeal edema, fever, and eosinophilia. Infrequent hemolytic anemia, leukopenia, thrombocytopenia, neuropathy, and nephropathy, usually with high doses of parenteral penicillin.

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August, 1979

President's Message

Charles L. Hill, M.D.

Howard E. Lawton

New Staff Appointment

Howard E. Lawton, resident of Middletown, has joined the Rhode Island Medical Society staff as an Assistant Executive Director, with responsibilities to assist and support the functions of several of the society's principal committees, including the coordination of the society's legislative activities. Mr. Lawton brings to the position extensive medical administrative experience: eleven years with the Newport Hospital and eighteen years with the Aquidneck Medical Center, Newport, Rhode Island. He is active in community affairs, and has served three terms on the Middletown Town Council, one term as the Council's president. He is married, and his wife, Barbara, is a teacher of Home Economics in the Joseph Gaudet School, Middletown. He is the father of three children, two sons and one daughter.

Report of the Ad Hoc Committee on the Individual Practice Association (IPA) Health Maintenance Organization (HMO)

An IPA-style HMO, called an IPA, is actually a health insurance company, chartered by the state insurance commission. It is a business corporation, which is owned and controlled by physicians and with a comprehensive package of health care services. The Health Maintenance Organization Act of 1973 (PL 93-222) provides for the IPA as well as for the closed panel HMO (staff and group practice model). Both the IPA and the closed panel HMO have the potential to provide quality health coverage, but the IPA is especially attractive to private physicians because it allows them to continue to practice in their own settings. The IPA offers to the public prepaid services, and is also able to offer physicians compensation for their services on a fee-for-service basis. Moreover, an IPA can accommodate all existing types of local private medical, surgical and dental practices from sole proprietors to single or multi-specialty groups.

The guaranteed delivery of comprehensive health care services within a fixed budget is the basic health management concept of the IPA. Subscribers receive complete health care for a fixed annual premium, which is actuarially calculated in advance. Unlike traditional health insurance plans, an IPA pays in full for all hospital inpatient services, including consultations and both concurrent and concomitant care. An IPA emphasizes the importance of and pays for office visits, including periodic health examinations, childrens' immunizations and preventative dentistry, all ambulatory diagnostic tests, emergency services, psychiatric care, and many others. Central to the success of an IPA is the ability of its providers to achieve cost saving by the judicious selection of the most appropriate diagnostic and therapeutic measures for each patient.

Compared to the closed panel HMO, the IPA has three main competitive advantages:

(1) IPA providers continue to practice in their own offices, seeing IPA patients on a part time basis. A provider's contract with an IPA is for one year only, and, with a new IPA, seldom for more than 5 per cent of his practice. The IPA tends to eliminate bad debts for this portion of a doctor's practice.

(2) Unlike a closed panel HMO, an IPA does not require the construction of a new building, purchase of new equipment or the recruitment of new providers and a large staff. Most IPAs function efficiently in 1,200 square feet of office space with one executive director and a clerical staff of three or four.

(3) IPA marketing drives can penetrate the population easily, chiefly because subscribers usually do not have to give up their own doctors to join.

With such advantages, IPAs have been able to break even with as few as 3,500 subscribers, although 10,000 subscribers are usually needed to reach the break even point. An estimated 35,000 subscribers are required to attain the break even point for closed panel HMOs of either the staff or group practice model.

Nationwide, out of a total of 211 existing HMOs, more than 70 are IPAs, and there are at least 60 other IPAs in various stages of planning. Among new HMOs getting underway in the last two years and especially since last summer, IPAs greatly outnumber closed panel models. In the last year nearly 25 per cent of all

new HMO enrollees were being signed up by IPAs. California now leads the IPA movement with 16 operational and at least 9 more in planning stages. As of November 1978, the six New England states had 18 HMOs operational, 5 of which were IPAs.

The president of our Society, the members of the Ad Hoc Committee on Individual Practice Association Health Management Organizations, and numerous local private physicians believe that the privately financed, non-certified IPA is both practical and desirable for Rhode Island. The federal government allows 3 years and over \$1 million to get an HMO off the ground, but an IPA can become operational in 12 to 18 months and for not more than \$250,000. An IPA allows unique opportunities for doctors to control the practice of medicine in their local areas, and to blunt the soaring costs of medical care. Therefore, we are now in the process of engaging the services of a nationally known consulting firm, the American Health Management and Consulting Corporation (AHMAC) of Stratford, Pennsylvania to proceed with a formal actuarial study of legal requirements, market potential and provider attitudes for the IPA in Rhode Island.

Robert D. Coli, M.D., Chairman

Doctors' offices are not specifically exempt from President Carter's declared limited state of emergency which imposed temperature and humidity controls on all buildings except residential buildings, hotels, hospitals and health-care facilities, elementary and nursery schools and day care centers. However, an exemption "to protect the health of persons in offices of physicians, dentists and other members of health-care professions licensed by the state to provide health-related services" may be claimed through a "Building Compliance Information Form", which together with a "Certificate of Building Compliance" must be filed by the owner or operator of every non-exempt building. Forms may be obtained from post offices or by writing Director, Office of Building and Community Systems, Office of Conservation and Solar Applications, 20 Massachusetts Ave., NW, Room 2221C, Washington, DC 20585, Attention: EBTR Compliance.

Application for exemptions should be made immediately as the deadline for filing is soon. Willful violations carry a maximum of \$10,000 fine for each offense.

AMA Will Recognize All Previous LCCME Accreditations

On July 25, 1979 at the direction of its House of Delegates the American Medical Association withdrew from the Liaison Committee on Continuing Medical Education and resumed the AMA's previous responsibility for accreditation of institutions and organizations offering continuing medical education programs.

Effective immediately, the AMA recognizes state medical associations in accordance with amended guidelines as previously established by the Council on Medical Education as the accrediting bodies for institutions and organizations offering local programs of continuing medical education within their respective states. All institutions and organizations whose previous accreditation was in effect will be recognized as accredited by the AMA.

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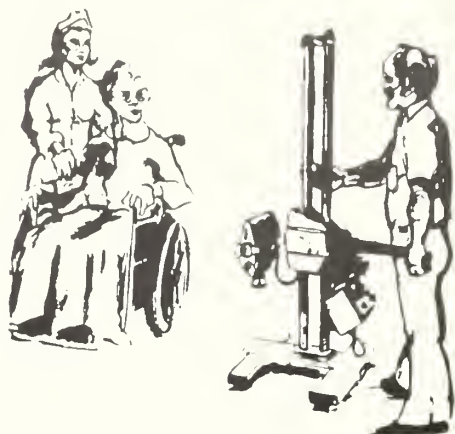
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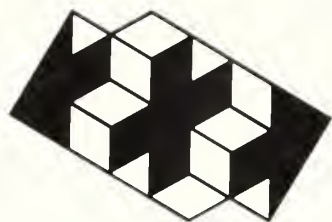
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Rhode Island's Health: Yesterday, Today, Tomorrow

*It Is Our Shared Responsibility To Shape Government
Involvement In Ways That Are Beneficial To Society As A Whole*

By Joseph E. Cannon, MD, MPH

No one seriously interested in public health can fail to recognize that Charles Value Chapin, Superintendent of Health of the City of Providence, Rhode Island was a giant in his field, whose influence upon environmental management and the healing arts in his city, state, and nation has been pervasive. I feel at once humble and honored to take part in this annual observance dedicated to his memory, and I am particularly honored, since I note that this is only the third time a Rhode Islander has been invited to deliver the Chapin Oration in its 38 year history.

As you can well imagine, I accepted the invitation with alacrity, fearing that it was a mistake and that the invitation might be withdrawn. I have read with interest the words of those who preceded me, and they are such a distinguished assemblage that I can't help wondering if anything I say will justify

your adding me to this outstanding group. I can only hope that my particular experience, different in many ways from that of most of you, will yield an insight or two of some value.

Many previous orations have explored problems of great interest to the worker in public health, but none, I think, stimulated my interest more than the 20th, delivered by the late Doctor Alex M. Burgess, the distinguished Rhode Island physician and friend and teacher of many in this room. I should like to take a short passage from his presentation which bears repeating:

In our darker moments those of us who have watched for a half-century the changes in national and community life and in American medicine are often too impressed with the retrogressive features of the times as we fatuously long for the "good old days". Progress, we all recognize, but many of us can sense also the retrogression.

Doctor Burgess applied this concept of simultaneous progress and retrogression to the field of medical education, looking at what he saw as its gains and losses. I propose today to look at the primary concerns of public health in a similar fashion.

Read at the 168th Annual Scientific Assembly of the Rhode Island Medical Society, May 16, 1979.

JOSEPH E. CANNON, MD, MPH, *Director,
Rhode Island State Department of Health.*

The Beginning of the Chapin Era

It may be interesting at the start to take account of the city and state as Chapin found them in 1883, when he assumed the office of Superintendent of Health of the state's capital city. Chapin brought with him the products of the new science of bacteriology and found much to be done. In 1906 he told the Rhode Island Medical Society that in 1884 Providence, like most cities, had been notable for its stench, coming from stables, polluted streams, dead animals, foul privies and cess-pools, and the openly-discarded garbage and trash which was seen everywhere. This was a time when a full fifteen per cent of liveborn infants died before the age of one year. There was a strikingly high rate of accidental death, about 57 per 100,000, which continued to rise to about 90 at the turn of the century. This compares to today's figure of 32 even with our much discussed traffic hazards. Communicable diseases were largely uncontrolled, and there were frequent visits from typhoid fever, cholera, and the childhood exanthems; tuberculosis was the leader, accounting for about 15 per cent of all deaths. Surgery was crude and primitive, restricted to the most urgent of indications. Anesthesia was a new art; asepsis had just come into discussion; and there was a horrendous operative mortality rate.

Status at the End of the Chapin Era

Jumping forward more than a half-century to 1941, the year that Chapin died, I was then just emerging from the larval stage as a physician and found myself operating a small army hospital in Alaska, where, as one-third of the entire staff of physicians, I was truly a general practitioner. By this time medical knowledge had exploded, and the problems of health and medical care had changed radically. This experience produced in my mind an abiding uneasiness about the delivery of medical care by government.

As I look back to those days just before World War II, I see that medicine was still in a comparatively crude state. We treated syphilis with long and traumatic courses of arsenic, bismuth, and other heavy metals. We painted sore throats with caustics and still debrided wounds by introducing maggots.

Even then the growth of technology was already sufficient to have had a few

disturbing side-effects. The trend toward increasing specialization was gaining momentum, and physician-patient contacts were becoming transient episodes based on the patient's current disease. Clearly, medicine was becoming a complex task, inducing a role change for physicians. One began to hear talk of the loss of the "art" of medicine in the pursuit of the science.

With all this, costs had already begun to be of growing concern. The 1930 commission on the costs of medical care had already begun to lay the basis for the growth of third-party payment systems.

During these years a paradox became apparent: as more health services were provided to more individuals, the image of the health care establishment and of medicine began to decline. While I doubt that this arose out of any one cause, I think that one factor deserves mention — the growth of unrealistic expectations in the public's mind. With the increasing costs of government and the growth of taxation, large private fortunes and the major personal philanthropy which they made possible began to decline. By 1941 some of our largest health-related associations and foundations were already in place, notably those related to cancer, tuberculosis, heart disease, and poliomyelitis. These and a host of others which followed became heavily engaged in developing the philanthropy of the small contributor through the use of high-powered public relations which filled the media with promotional material full of promise of progress and disease breakthroughs. Is it any wonder that public expectations have increasingly outrun our capacity to deliver? Progress in medical funding and development carried with it the seeds of disappointment.

In my own field of public health, in the '40s we were still much preoccupied with the prevention of communicable disease. Although we had been licensing physicians for nearly a half-century, licensure of health facilities was just beginning. Categorical governmental programs for specific diseases and for support of care were still in the future. We were deeply involved in environmental management, and had the happy illusion that the environmental book had already been written. All we needed to do was to follow it.

I have no wish to make this a statistical report, but might mention that the state

population had already passed the 700,000 mark in 1941 and the proportion of people over 65 had risen from $4\frac{1}{2}$ to $7\frac{1}{2}$ per cent over the previous 40 years. Diphtheria, human rabies, and typhoid fever had become uncommon although not rare. Tuberculosis was still common. Streptococcal infections and rheumatic fever were far from controlled. Infant mortality rates had fallen to about 36 per thousand live births; there were only 25 maternal deaths in 1941. Death rates from heart disease, cancer, and stroke even then exceeded other causes of death, and we were on the point of directing more and more attention to them. The average age at death was about 60 years.

Today's Situation — Doing Better and Feeling Worse

I've said enough to hint at some of the striking gains in health status and health services that had appeared by 1941 and some of the losses that they had entailed. It is now time for another great step forward to the present time. You know as much about what has occurred as I do, and many I suspect know more. Still, I should like to inventory some of the changes in order to examine some of the further losses we have suffered as the price of progress.

Before dealing with matters primarily concerning health and medicine, I should pause to mention a couple of basic social and technological changes of our time, which have affected our health and health services.

One obvious example is the new and often frightening force that has been placed in our hands by the atomic scientist. With it we have developed not only new energy sources and new military capabilities, but also new diagnostic and therapeutic tools. At the same time we have given birth to new categories of environmental problems to challenge the resourcefulness of some of our very best brains.

Another social change has been the expansion of government in size and function, but its reputation has sagged to new lows partly, but not entirely, due to the profound shaking of public confidence that followed the "Watergate" episode. This loss of confidence has made bureaucracy even more cumbersome, since government has been forced to

develop systems for the assurance of human rights, personal privacy, and the public's "right to know". Not one of these objectives can be faulted individually, but they have generated conflicts, cross-purposes, and extensive record systems to provide accountability.

You know what has happened in the biological and life sciences. It is in these fields that some of the best examples of simultaneous progress and retrogression are to be found. One of the fields of greatest advance in modern times is molecular biology, of which we knew nothing in my early days. As the bases of growth, inheritance, and life itself are increasingly understood, new approaches to old problems — genetic disease, viral illnesses, and cancer — begin to appear simultaneously with ethical dilemmas involved in "genetic engineering" and other consequences of our research that must be met.

With the introduction of many new drugs, we have also received many new possibilities of incompatibilities, side-reactions, and misuses. Properly, the need for controlled trial of new methods and materials to establish their safety and effectiveness has been recognized and codified. But this has generated new legal and ethical problems including the informed consent quagmire.

Along with changes in methods of treatment have come changes in modes of practice. Group practice, prepaid care, corporate practice, and salaried roles for physicians have been expanding. New means of paying the bill have been emerging, and with them increasing regulatory activity and its daughter, paper-work. The consumer has become more sophisticated, more demanding, and more skeptical as we have gone forward, and we have been required to pay attention to what he is trying to tell us. As a further fall-out from this we have had an increase in the number of malpractice suits, which has been the cause of much soul-searching and many new systems. Planning and quality assurance systems have come into our lives as never before.

Government and Public Health — The Present and the Future

I have catalogued a series of events that have occurred over the last century. Before

going on, I should like to share with you my view of the role of government and public health both now and in the future. In discussing approaches to critical problems in the past and in the future, I have emphasized public health efforts, but this does not mean that I seek to promote more government involvement. I am not in favor of undue governmental bureaucratic involvement in health, medicine, and other affairs of man. However, it must be recognized that the medical community, as well as individuals in our society, must look to some government roles in these matters. In part, this comes about because human nature is such that government must engage in all those activities that do not generate either fun or profit. There are clearly certain tasks such as the maintenance of law and order which depend on government involvement.

I believe that in medicine it is the role of public health and government to provide centralized coordination, problem identification, and resource allocation. This must grow out of democratic decision and policy making. On the other hand, I believe that government should not be directly involved in large scale implementation of programs. Programs should be implemented at the periphery by small community based groups. The use of such groups through contracts and grants has been the pattern that we have attempted to follow in the public health sector in Rhode Island. It is very clear to me that bureaucracy by its nature is not terribly efficient in the actual day-to-day accomplishment of individualized tasks such as the provision of medical care.

Democratic governments are simply not designed to be efficient, but rather somehow to express the will of the people. Let me remind you that government does only what is assigned to it by statute. It consists of persons employed to do their best to discharge their assigned tasks with the resources and authority handed to them. Statutes under which they work have been developed by the legislative process to fill the gaps which legislators and their constituents feel exist. If, as so often happens, the legislative process develops wrong solutions to the right problems, we all share the blame.

I should like to give you one concrete example of necessary governmental public

health involvement. Physicians in private practice have had smallpox vaccine available to them for several centuries. With it, doctors have accomplished much. But it was not until the state mandated that it must be used for prevention in travelers and in schoolchildren that we saw the incidence of smallpox begin to decline. We may have seen our last case of smallpox in the entire world only because of the most carefully planned and coordinated efforts by the many national governments constituting the World Health Organization. Individuals can achieve such successes only by banding together; this is the essence of what government can and, indeed, must do.

The Future — Problems and Approaches

And so I have reviewed things as they were at the time Chapin began his career, as they were at the time that he ended his career, and as they have evolved during my career. I have attempted to define the legitimate niche and function of government in health. Now allow me to draw from my public health perspective developed over these past 30 years to make some predictions about what the future holds. There are four major categories of problems that will increasingly demand action: disease related to life style, the environment, chronic diseases, and patterns of health care organization and delivery.

A. Diseases Related to Lifestyle

It is now widely recognized that many of our lifestyle habits are killing us. It is almost a cliché to emphasize the need to modify smoking and drinking behavior, to promote physical fitness through daily exertion, and to avoid obesity. Having moved into a high technology era when sophisticated medical surgical and research techniques are available, we have ironically come full circle and realize that we are what we eat, and breath, and do.

The central question relative to this group of diseases and behaviors is how modification can be achieved. First, I would suggest that much responsibility resides with the individual. But we must all recognize that behavior is shaped by the social milieu in which it is manifest. This milieu is modifiable. Factors which influence behavior include marketing forces, cultural components, and social conditioning as well

as an individual's knowledge about the risks of his behavior. One need only to look at the effect of lower speed limits on reducing automobile fatalities to realize the significant impact that environmental manipulations can have on lifestyle and social habits. I suggest that we need coordinated, aggressive lifestyle modification programs similar to those developed for the control of communicable diseases. I would further suggest that the primary responsibility for this resides in the public health sector. It seems to me that there is a variety of approaches that clearly could be pursued now, while there are others that need immediate further investigation.

Let me start with health education. I believe it is valid to assume that education can result in behavioral change. I am also convinced that health education during growth years integrated into elementary and secondary education can have a permanent impact on the behavior of our future adults. I believe that we must develop disease-specific health education modules, since one of the problems in health education is that it is done too diffusely. We should pick our targets and educate intensively and repeatedly.

I am less convinced about the value of health education for adults, whose established habits are more difficult to modify. But even for adults progress can be made; witness the large numbers of physicians and lawyers who have permanently quit smoking. We must learn more about how to use education for adults before we invest undue resources in it.

Another approach to modifying behavior is the use of mass promotional and educational means. It would seem that, if one can sell sugar-frosted cereals and shiny automobiles, one ought to sell healthy habits. The problem is that the cost of such promotion is very large and there is no dollar-profit motive that directly feeds back to cover such costs.

A third means of achieving behavior changes is through manipulation of the environment. This is one instance where the medical community and the public health establishment can have some immediate impact. Although it is somewhat punitive, allowing smoking only in certain selected areas is an example of this kind of environmental manipulation. A more positive example would be the placing of exercise facili-

ties near to the work site and other convenient locations around the state.

Lastly, it would seem appropriate to use incentives/disincentives such as adjusting the cost of insurance and the price of cigarettes. Relative to tobacco, there is no real alternative to health education and behavior modification programs, short of banning tobacco products or taxing them at prohibitive rates.

A major problem in the realm of lifestyle change is the lack of sanctions available for motivating changes. After all, poor eating and exercise habits are not illegal or immoral and are deeply ingrained. The late Doctor John Knowles and others have observed that social Darwinism still maintains its hold on the American mind despite the best intentions of neoliberals.² Individual rights, including the right to engage in destructive behavior, have been assiduously protected in the United States. But it is clear that, along with his other rights, an individual has the right to be provided with information about healthy behavior and facilities which will promote such behavior. I believe it is an individual's responsibility to maintain and strengthen his own health, but this is a shared responsibility for which society must take action in order to urge, if not mandate, behavioral change. Is all this politically feasible? According to recent information a concentrated national focus on preventive health maintenance would have the overwhelming support of public, business and labor.³ We must mobilize this support to bring about action.

B. The Environment

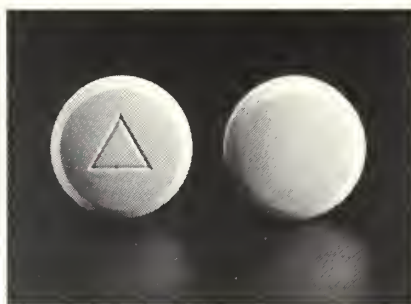
Moving on to a second major concern, the environment, I find that to date solutions have been somewhat lacking. The current effects of the environment on man's health can be viewed largely as a by-product of modern-day technology. This is not to say that pollution, occupational hazards, and cancer, are of recent vintage. The effects of the environment on health were recognized in ancient Greece. Increase in population, its distribution, longevity, the vast production of goods, overconsumption, and improved communication and technology have intensified and emphasized the effects of the environment on man's health.

The Maker

Examining a Few Myths About Prescribing.

Increasing pressure is being put on the practicing physician to prescribe drugs generically. You are told that brand-name products are universally "expensive" and generic versions are relatively "cheap." To make this case, the most extreme (rather than typical) price differentials are cited. Thus, consumers are led to believe that such differentials are commonplace. Even your knowledge and your motives as a physician are questioned.

Understandably, these views have created myths. We think it's time to examine them in the light of all the facts and ramifications.



MYTH: There are no differences in quality and performance between brand-name products and their generic counterparts. The corollary is that there are no differences among products made by high-technology, quality-conscious, research-based companies and those made by commodity-type suppliers.

FACT: The Food and Drug Administration does a good job in monitoring a generally excellent drug supply. Still, it has nowhere near the resources to guarantee the quality and bioavailability of all marketed products at any given time. Just a few months ago, for example, it noted that batches of tetracycline HCl capsules which met official monograph requirements were

not bioequivalent to a reference product. As you know, there is substantial literature on this subject affecting many drugs, including such antibiotics as tetracycline and erythromycin. The record of drug recalls and court actions affirms strongly that there are differences among pharmaceutical companies and their products. Research-intensive companies have far better records than those that do not. Research and may practice minimum quality assurance.

MYTH: Industry favors only "expensive" brand names and denigrates generics.

FACT: PMA companies make 90 to 95 percent of the drug supply, including, therefore, most of the generics. Drug nomenclature is not the important point; it's the competence of the manufacturer and the integrity of the product that count.

Matters.

MYTH: Generic options almost always exist.

FACT: About 55 percent of prescription drug expenditure is for single-source drugs. This means, of course, that for only 45 percent of such expenditure, is a generic prescribing option available.

MYTH: Generic prescriptions are filled with inexpensive generics, thus saving consumers large sums of money.

FACT: Market data show that you invariably prescribe—and pharmacists dispense—both brand and generically labeled products from known and trusted sources, in the best interest of patients. In most cases the patient receives a proven brand product. Savings from voluntary or mandated generic prescribing are grossly exaggerated.

MYTH: Drugs account for a major portion of the rise in health care costs.

FACT: Drugs represent a very small part of such costs. The amount of the health care dollar spent for prescription drugs was about 12 cents in 1967; today it is about 8 cents. And you as a physician are most conscious of how drug therapy can cut hospitalization, avert surgery, reduce office visits and keep patients on the job.

MYTH: Government intrusions into the marketplace will save tax money.

FACT: Government schemes always cost the taxpayer something, and the costs often exceed the benefits. Certainly, any federal "help," such as lists of wholesale drug prices sent to all physicians and pharmacists, will be no exception. Just think of the expense of keeping them current! Moreover, wholesale prices are poor guides to actual transaction prices and even worse guides to retail prices.

The PMA Position

We believe your freedom to prescribe, either by generic or brand name, should be totally unabridged. Otherwise, your prescribing prerogatives and your relationships with patients will be seriously impaired.

The maker does matter

After the myths about price and equivalency have been shattered, one fact stands out more clearly than ever: *The maker does matter.* As always, your best guide to drug therapy for your patients is to select products—both brands and generics—from manufacturers with credentials and performance records you have come to respect.

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We recognize that in developed countries the microbiologic agent of disease is no longer the dominant cause of illness. Rather the nonliving threats in our environment are now acknowledged to be the primary agents in the development of many of today's diseases. Early in this century the concerns in environmental health centered on water supply, food, and the control of vectors. The primary source of pollution evident to the public was related to transportation — the end-products of digestion by the horse. It was not until after World War II, with the increased diversity and level of technology, that questions about the environmental effects of industrial and chemical compounds were raised. When concern about the environment became fashionable, a deluge of legislation created a host of federal regulatory agencies and research institutes. Thus we now have the Environmental Protection Agency, the Food and Drug Agency, the Occupational Safety and Health Administration, the Nuclear Regulatory Commission, and the Consumer Product Safety Commission, along with their respective research groups.

How much in reality do we know for certain? We are a crisis-oriented society that perceives problems in accordance with the actions of vocal interest groups in conjunction with apparent effects upon ourselves. In order to see where we are at the present time, let us look at some examples.

The Air Pollution Control Act was passed principally to limit automobile emissions. To meet the new standards, manufacturers have selected the catalytic converter, which requires lead-free gasoline. With this device the initial and maintenance costs of the car have risen, as has the cost of fuel. However, in Rhode Island we could control all vehicular sources of pollution and still observe only a minimal effect on air quality, since much of our contamination is generated in neighboring upwind states by non-automobile sources.

Another example is the radiation standard being proposed under the provisions of the National Drinking Water Act. Because of natural geologic formations in the New England area, the background levels of radioactivity in water pumped from wells at times exceeds the proposed limits. The national cost of full compliance with proposed standards would be staggering; and the basis of the risk

estimates is debatable. Water with natural levels of radiation in excess of the standards have been consumed by our residents for the past few hundred years with no documented adverse health effects.

Lest we feel that all environmental scares are frivolous, keep in mind the polybrominated biphenyl (PBB) episode in Michigan. Somehow a flame retardant containing PBB was mixed with a feed supplement that was fed to cattle throughout Michigan. The neurological effects on the cattle became apparent at a later date. By then milk and beef were contaminated, and tens of thousands of animals had to be sacrificed. Subsequent examination of persons exposed showed significant human contamination, the final effects of which are unknown, but under study. Remarkably, in spite of the billion dollar cost of the PBB episode, no human adverse effects have yet been documented.

In regard to the environment we have developed a substantial regulatory structure to correct the perceived problems while lacking scientifically sound information about adverse health effects. Many of the federal activities have been carried out without consideration of economic benefit or cost, and are of uncertain health benefit. It is my contention that there must be more health considerations built into environmental standards and programs.

Physicians must help us gather information. They must be aware of environmental health effects and guide the affected individuals to specialized services. For the future rational decision making with serious consideration of potential costs and benefits will be required.

C. Chronic Diseases

I have already discussed how progress may lead to retrogression. In some ways this is clearest in respect to chronic diseases. As we live longer, our population as a whole becomes sicker. We accumulate persons with chronic diseases. Gruenberg called this the "failure of success" and pointed out that, on a prevalence basis, we are sicker now than at the turn of the century.⁴

Given the fact that much of our population suffers from a variety of chronic and disabling conditions that cannot be prevented, why should we concentrate on this group? I am

convinced that great strides can be made with chronic diseases in the arena of secondary prevention, that is, with the prevention of complications of these chronic conditions. The list of chronic disorders that may be amenable to preventive interventions is a long one, as compiled by Rutstein.⁵ Let me take just one chronic disease, diabetes, and suggest an epidemiologic approach to some preventive aspects. When we talk about prevention, the epidemiology of complications is crucial to developing interventions.

Diabetes in Rhode Island and nationally has a prevalence rate of about 2.3 per cent, which increases to about 8 per cent in the older age groups. It accounts for about 10 per cent of hospitalizations in Rhode Island. Diabetics suffer from micro- and macro-vascular disease and have a life span that is at least ten years shorter than nondiabetics. Diabetes accounts for a substantial proportion of all new blindness in the United States and for over half of all amputations. A survey in Rhode Island indicates that diabetics have 25 bed days of disability per year versus only eight days for nondiabetics.

In the process of planning for a statewide diabetic intervention program in Rhode Island we discovered a number of things. First, given a disease of this importance, it is remarkable how little epidemiologic data are available. Precise measures of diabetes prevalence and incidence by age, insulin status, and complication rates are simply not available. When we examined diabetes in Rhode Island, we concluded that there were at least three aspects that would lend themselves to intervention and for which we needed more data: diabetic coma, gestational diabetes, and juvenile diabetes.

There are about 250 episodes of diabetic coma per year in Rhode Island. Single center studies would suggest that about half of these episodes are preventable through education, close patient follow-up, improved self-management, and improved nutritional control.⁶ In addressing this problem in Rhode Island, our first step was to determine more accurately who are victims of diabetic coma in the state. We already know some interesting things. First, coma rates increase with age and are inversely related to socioeconomic status; that is, the poor have a diabetic coma rate over four times that of the

wealthy. We know that coma rates vary greatly from hospital to hospital, but we are not yet certain as to the reason. We don't yet know the role of the patient or the effect of provider behavior. These things are now under study, and I believe that with answers in hand we shall be able to develop focused diabetic coma intervention programs.

As to gestational diabetes, it is known that untreated gestational diabetes directly affects the outcome of pregnancy, in that infants of diabetic mothers have a six to eight fold increase in respiratory distress syndrome and congenital abnormalities. These complications are preventable through the control of maternal hyperglycemia.

With respect to juvenile diabetes, it is clear that the juvenile diabetic is the most severely affected of all diabetics, in part because his disease begins at an early age. Yet we know little about who are the juvenile diabetics in Rhode Island and what their characteristics are; that is, we know little about the determinants and complications of juvenile diabetes. Where are the juvenile diabetics located, where do they receive their care, how much education do they receive, and how much psychological and nutritional support do they receive? Once these factors are known we can seek ways of filling the gaps in their care. To gather these data we are in the process of registering juvenile diabetics as they enter hospitals.

I have taken diabetes as an example of a chronic disease which needs a categorical program. There are other examples that are destined to emerge in the future.

D. Health Care - Organization and Delivery

Economic, social, and technological pressures have changed the organization and financing of health care and will continue to do so. The solo practitioner, a venerated provider of health services, is going the way of the neighborhood grocer, the corner druggist, and the small farmer. These same pressures are forcing the development of new methods of delivering health care, just as they gave rise to the supermarket, the chain drug store, and the big farm. We have seen the physician leave the neighborhood and establish his office with other physicians in order to be convenient to the hospital. Some mourn the passing of physicians' house calls. We have

witnessed the establishment of medical office buildings to accommodate physicians and other professionals, as well as clinical laboratories and pharmacies.

We have observed the development of neighborhood health centers, freestanding emergency rooms, and ambulatory surgical facilities. Hundreds of physicians are paid salaries, and there is increasing incorporation of physicians. These are markers of the new directions.

This trend is inevitable. It must be harnessed for positive purposes. The potentially negative aspects, such as impersonal behavior, lack of follow-up, and unresponsiveness, must be avoided. Evolution in forms of medical practice should be encouraged and tested.

Hospitalization, the most expensive component in the health care spectrum, will continue to be the focus of attention. Easy use of and access to the hospital are things of the past; the hospital is no longer the exclusive domain of the physician, shared occasionally with a lay board and some volunteers. It is a major cost factor in the health care system and is coming under increasing scrutiny by those who are providing the money.

We must view the hospital as an alternative to community-based care, rather than the primary factor. While we recognize that there is no such thing as a good institution from the perspective of the patient, we must also take care that we do not abandon our calling in the name of economy. We shall have to design community-based systems which combine the medical and social aspects of human services and which are capable of long-term patient identification, treatment, and monitoring. In the face of chronic diseases, such as heart and circulatory disorders, mental illness, mental retardation, and substance abuse, our health service delivery system will have to be better integrated and more outgoing. The aging of the population heightens the need for such changes.

The available data indicate that Rhode Island has too many physicians, and I would expect some reduction in that number. There is a great emphasis throughout the country on physician extenders. I don't believe that physician extenders will become a very large

element in Rhode Island, because we have ample numbers of primary care physicians.

The growing attempts of health professions other than physicians to achieve professional independence run counter to the need for a more systematic approach to health services. The physician must retain the quarterback role in a team approach to health care. Unbridled professional autonomy is good for those professions, but not for the patients. The recent period of specialization and separation must be followed by a period of organization and cooperation.

Overview

In the end we must humbly recognize our limited powers to improve the health of the population. Physicians have always been concerned about cure, rather than health promotion. Major improvements in the health of the population will require systematic changes in our lifestyle and environment. As always, the advancement of public health will require substantial social and economic changes affecting the industrial, agricultural, transportation, and nutritional sectors of our society.

We in the health professions have a monopoly on the technical knowledge which underlies medicine and public health. It is our shared responsibility to shape governmental involvement in ways that are beneficial to society as a whole. I would urge the physician of today to pause now and then to reflect upon the gaps in health services for the community. Much may be done by personal and joint effort, and through the political process to nudge the system in the direction of more acceptable and effective services. I know that many of you who do this, but I wish there were more.

I can assure you of one thing. Change will continue, just as it always has. I hope that we may be given the wisdom and the courage to plot our course toward well-conceived goals with as few missteps and retrogressive changes as possible.

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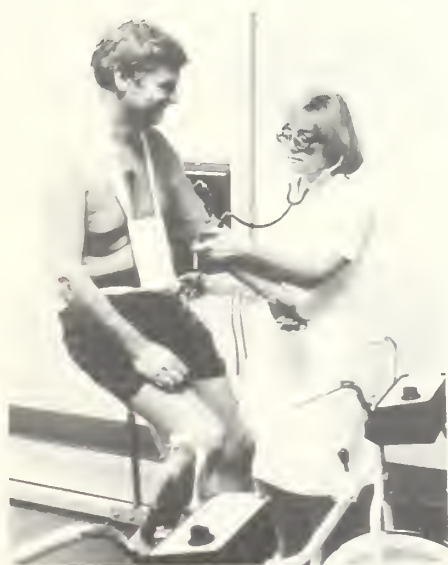
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President's Address — 1979

The Future of the Rhode Island Medical Society

By Joseph E. Caruolo, MD

One of the most difficult tasks I have ever had to perform in my lifetime was that of representing the health interests of the people of Rhode Island as interpreted by the Rhode Island Medical Society. Now, the most important thought I can leave you is that the interests of the public, the interests of the Rhode Island Medical Society, and the interests of the future of the delivery of medical care cannot possibly be served by a stand-pattist posture. The course of the medical society must be charted by a determination to serve the health interests of the public by retaining only so much of the past as is incontrovertibly good, discarding the rest, and by moving on toward new horizons as the needs of the times dictate. I urge the shaping of new directions, and the comments which follow suggest a few of the ways we can do this.

Medicaid

The Medicaid program is budgeted at high state and national levels. One may quarrel with the total fundings in Rhode Island but one must congratulate the administrators of the plan for serving well the medical needs of the poor and at the same time making full payments to physicians promptly within the confines of a rigid budget, for never pro-rating or cancelling obligations as has been done in other states, and above all for keeping the

program "voluntary." Legislation is being suggested elsewhere mandating care to the poor as a condition of licensure or hospital appointments. To avoid the onus of being forced to care for the poor every physician in the state should voluntarily allot up to ten per cent of his practice to serving Medicaid patients.

Only yesterday I was authorized to announce that an increase in surgical fees has been approved amounting to twenty-four per cent (24 per cent); those who would criticize this increase as unnecessary had first better be aware of when the last fee increase took place and how the new fees compare to usual and customary fees. Even in the face of the fee increase participating physicians should be congratulated for a voluntary contribution to the medical care of the needy. Those who would disparage it as too little had better become better acquainted with budget problems.

Rhode Island Medical Journal

The *Rhode Island Medical Journal* is a great asset to the Society but is not used to anywhere near its full administrative and political potential because there is too much distance between the editor and the Council. The *Journal* editor should be a member of the Council of the Rhode Island Medical Society in order to be sensitive to Council needs, in order to be guided by Council suggestions and at times Council mandates.

Impaired Physician

Some time ago, by action of the Council and House of Delegates, an Impaired Physicians Program was devised as it has been in

Delivered at the 168th Annual Scientific Assembly of the Rhode Island Medical Society, May 16, 1979.

JOSEPH E. CARUOLO, MD, President 1978-1979, Rhode Island Medical Society.

the majority of states and will soon be in all states. The program, however, was in hibernation. My personal involvement came about as a result of pressure from the Committee for the Impaired Physician, requesting that I lend personal support to the program.

Assured that there were adequate safeguards built into the system, a question distilled in my mind as to which is more compelling — providing a compassionate helping hand to a distressed colleague, help for a distressed physician's family, protection of the physician's patients, and safeguarding the good name of the profession; or, based on groundless fear, shying away from the program because of the risk of spurious accusations which could never survive the test of truth.

I had no difficulty in making the choice.

Continuity of Policy and Administration

Rhode Island Medical Society policy should be established by the Council and should be translated into action and reaction quickly and effectively. To accomplish this any person accepting the presidency must be capable of devoting a minimum of ten hours a week to society needs not counting the rubber chicken and peas circuit. Chairmen and members of active important committees can not do the job in less than five hours a week. These estimates are quite modest.

This effort is necessary to deal with the incredible output of state and national printed matter, programs, and legislation.

Weekly sessions attended by staff, the president, the president-elect, and the past president to adjourn only when business is completed are an absolute must for at least eight months a year. The Society cannot possibly maintain credibility otherwise. My feeling in this matter is strong enough to recommend this as an addition to the bylaws.

The Council should meet at least eight times a year and should be kept in numbers to the smallest size possible.

The nominating process needs improvement to provide for continuity in policy. Perhaps the committee should consist of the president, the president-elect, the past president, and all district presidents or councillors.

Political Arena

We cannot expect an improvement in our political fortunes unless:

1) Every member contributes to the Rhode Island Medical Political Action Committee (RIMPAC) and the RIMPAC Committee comes to life. The chairman is sometimes the only person attending a scheduled meeting.

2) Unless legislative committee members appear — in force — at every pertinent hearing, taking with them when necessary technical experts from the ranks of the Rhode Island Medical Society. This is a very effective mechanism. I have seen it in action and recommend it.

3) Unless the district society members as citizens become very active at local senatorial and representative levels. Particular effort should be made in those contests, where a small swing vote can mean the difference between election and defeat of the candidates.

Blue Shield

The Rhode Island Medical Society was in largest measure responsible for the birth of the Physicians Service Plan, and Physicians Service was the parent of the Blue Shield Plan. It might be said then that Blue Shield is somewhat of an offspring, a grandson or daughter of the Rhode Island Medical Society. How many of us control our children — not to talk of our grandchildren? But it is now an adult, and like all adults it is a product not only of its ancestors but also of its environment. In this context I feel that Blue Shield has been outstanding in meeting the medical needs of its subscribers while at the same time equitably dealing with physicians.

For continued success of the plan physicians must grasp the concept that society in general will spend only so much for its medical care, and the Plan must learn that it cannot continue to add services without subtracting services. The era of open-ended funding has come to a close. The era of priorities is here.

A special relationship has always existed between the Plan and the physicians of Rhode Island, whereby the physicians have agreed to a voluntary and efficient form of cost containment in return for an efficiently managed prepayment insurance project.

That relationship cannot continue to exist, however, unless fee increases are realistically

tied to the increased cost of living. A freeze or a lag in fee increases is discriminative socialism and inevitably must compromise quality in the delivery of medical care. The Plan was quick to grasp this concept a couple of years ago and is to be commended for its level-headed and effective efforts in this area. These efforts will continue I am sure.

Also this special relationship which has been of so much benefit to all concerned cannot continue unless the present partnership in numbers on the board remains undisturbed. If this balanced partnership is disturbed, the Plan inevitably must evolve into just another insurance company. The consequences of this possibility in the state of Rhode Island will be as unpredictable as they will be profound.

The Rhode Island Medical Society must not be responsible for a disruption of the special relationship. Let whoever else would do this do it and be held responsible. The Blue Shield Plan has consistently taken pride in having on most accounts the best plan in the entire nation. This is not a boast. It is a fact. But this position has been attained by a physician majority on the board. It is hoped that this story will be told more loudly and more often in the future. Recently physicians on the "physician dominated board" with foresight and statesmanship relinquished that majority voluntarily and entered into a partnership with the people. This middle ground is clearly the best of the three possible arrangements.

Universality

The Rhode Island Medical Society welcomes all physicians to its ranks: private fee-for-service, solo or group, salaried, academic or hospital based, and members of all groups. The preservation of the MD or DO identity is of paramount concern. We should all be aware of the weakening of the concepts of professionalism and the government's strenuous efforts to assist it to an early grave.

We need and desire all classifications of physicians in our Society, because no one method of the delivery of medical care can possibly serve best the needs of all groups of people in this enormous and complex nation.

No physician can afford the luxury of chauvinism, and no group of physicians can afford

the luxury of independence. Every form of delivery of medical care must remain strong and competitive and integrated, and to achieve this must adapt to an ever changing ambience.

Thus do I address the following to the fee-for-service private physician. To remain strong, all private fee-for-service physicians should begin to experiment with an alternative method of delivery within and compatible with their prevailing system, one which preserves the basic philosophy of private practice.

One of the deficiencies of the present system has been its inability to maintain a balance in numbers and a reasonable income spread between generalists and specialists. An imbalance in numbers renders the system vulnerable to justifiable attack by the planners. An unreasonable income spread creates intolerable divisiveness within physicians' ranks. Specialists must realize that they cannot continue to function without a compatible integrated generalist counterpart, one independent of institutions and government agencies.

I feel that all district societies must enter into an era of experimentation with an independent practitioners' association for each district. This can be effected without having any physician commit a vital percentage of practice to the experiment. Those districts which have already begun the experiment should be congratulated for their foresight and encouraged in their efforts. Those districts which have not done so should reconsider their position.

Standpattism has never resulted in survival for any group in any endeavor under any circumstances at any time in world history.

Under the new health insurance proposal of Senator Edward F. Kennedy of Massachusetts, which whether you like it or not is a possibility for the future, only four private elements in the delivery of medical care will be eligible to offer state-approved benefits, namely, commercial insurance companies, Blue Cross and Blue Shield Plans, Health Maintenance Organizations, (HMOs), and independent practitioners' associations. I cannot think of one valid reason for the private practice element of this state to avoid experimentation for the future.

JUA

The Joint Underwriting Association in Rhode Island (JUA) was never intended to be a permanent institution. Indeed, it was created as an expedient, a stop-gap measure to meet the medical malpractice crisis. Yet, until certain events took place last year there prevailed a *laissez-faire* attitude on the part of all concerned.

Last year the Council was alerted by the JUA to a proposed 34.1 per cent increase in premiums and at the very same sitting was assured that the figure was "negotiable" to five or ten per cent. If the final lowest acceptable figure was five or ten per cent, that is precisely what the JUA should have proposed in the first place.

If the JUA board is now concerned about an adversary relationship between itself and the Rhode Island Medical Society, I firmly believe, that if indeed that condition does exist, it was created by the JUA board and not by the Society, or by any one member.

Following that initial unsettling message, many events took place which need not be recounted here, since they were transmitted to the Society in a recent newsletter. As you know, the attorney general's department is now studying the matter. I believe that when the JUA comes in with a new request it will be well documented and will not be presented as a negotiable matter.

The Society should cooperate fully with the JUA, keeping the lines of communication wide open. The JUA has indeed served as a useful purpose for which the Society should be grateful. We must, however, question what the JUA does when we do not understand its decisions.

In keeping with the planned temporary nature of that authority, the Rhode Island Medical Society leadership would be less than responsible if it did not explore every possible avenue leading toward a permanent equitable insurance plan. In my opinion the best avenue would be that which leads to a plan which we ourselves control, completely or to the greatest extent possible.

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CONTRAINDICATIONS Advanced arteriosclerosis, hyperthyroidism, known hypersensitivity, or idiosyncrasy to the sympathomimetic amines, glaucoma. Agitated states. Patients with a history of drug abuse. During or within 14 days following the administration of monoamine oxidase inhibitors, (hypertensive crises may result).

WARNINGS If tolerance develops, the recommended dose should not be exceeded in an attempt to increase the effect; rather, the drug should be discontinued. Tenuate may impair the ability of the patient to engage in potentially hazardous activities such as operating machinery or driving a motor vehicle; the patient should therefore be cautioned accordingly. **Drug Dependence** Tenuate has some chemical and pharmacologic similarities to the amphetamines and other related stimulant drugs that have been extensively abused. There have been reports of subjects becoming psychologically dependent on diethylpropion. The possibility of abuse should be kept in mind when evaluating the desirability of including a drug as part of a weight reduction program. Abuse of amphetamines and related drugs may be associated with varying degrees of psychological dependence and social dysfunction which, in the case of certain drugs, may be severe. There are reports of patients who have increased the dosage to many times that recommended. Abrupt cessation following prolonged high dosage administration results in extreme fatigue and mental depression; changes are also noted on the sleep EEG. Manifestations of chronic intoxication with anorectic drugs include severe dermatoses, marked insomnia, irritability, hyperactivity, and personality changes. The most severe manifestation of chronic intoxications is psychosis, often clinically indistinguishable from schizophrenia. **Use in Pregnancy** Although rat and human reproductive studies have not indicated adverse effects, the use of Tenuate by women who are pregnant or may become pregnant requires that the potential benefits be weighed against the potential risks. **Use in Children** Tenuate is not recommended for use in children under 12 years of age.

PRECAUTIONS Caution is to be exercised in prescribing Tenuate for patients with hypertension or with symptomatic cardiovascular disease, including arrhythmias. Tenuate should not be administered to patients with severe hypertension. Insulin requirements in diabetes mellitus may be altered in association with the use of Tenuate and the concomitant dietary regimen. Tenuate may decrease the hypotensive effect of guanethidine. The least amount feasible should be prescribed or dispensed at one time in order to minimize the possibility of overdose. Reports suggest that Tenuate may increase convulsions in some epileptics. Therefore, epileptics receiving Tenuate should be carefully monitored. Titration of dose or discontinuance of Tenuate may be necessary.

ADVERSE REACTIONS **Cardiovascular** Palpitation, tachycardia, elevation of blood pressure, precordial pain, arrhythmia. One published report described T-wave changes in the ECG of a healthy young male after ingestion of diethylpropion hydrochloride. **Central Nervous System** Overstimulation, nervousness, restlessness, dizziness, jitteriness, insomnia, anxiety, euphoria, depression, dysphoria, tremor, dyskinesia, mydriasis, drowsiness, malaise, headache, rarely psychotic episodes at recommended doses. In a few epileptics an increase in convulsive episodes has been reported. **Gastrointestinal** Dryness of the mouth, unpleasant taste, nausea, vomiting, abdominal discomfort, diarrhea, constipation, other gastrointestinal disturbances. **Allergic** Urticaria, rash, ecchymosis, erythema. **Endocrine** Impotence, changes in libido, gynecomastia, menstrual upset. **Hematopoietic System** Bone marrow depression, agranulocytosis, leukopenia. **Miscellaneous** A variety of miscellaneous adverse reactions has been reported by physicians. These include complaints such as dyspnea, hair loss, muscle pain, dysuria, increased sweating, and polyuria.

DOSE AND ADMINISTRATION Tenuate (diethylpropion hydrochloride) One 25 mg tablet three times daily, one hour before meals, and in mid-evening if desired to overcome night hunger. Tenuate Dospan (diethylpropion hydrochloride) controlled-release One 75 mg tablet daily, swallowed whole, in mid-morning. Tenuate is not recommended for use in children under 12 years of age.

OVERDOSAGE Manifestations of acute overdose include restlessness, tremor, hyperreflexia, rapid respiration, confusion, assaultiveness, hallucinations, panic states. Fatigue and depression usually follow the central stimulation. Cardiovascular effects include arrhythmias, hypertension or hypotension and circulatory collapse. Gastrointestinal symptoms include nausea, vomiting, diarrhea, and abdominal cramps. Overdose of pharmacologically similar compounds has resulted in fatal poisoning, usually terminating in convulsions and coma. Management of acute Tenuate intoxication is largely symptomatic and includes lavage and sedation with a barbiturate. Experience with hemodialysis or peritoneal dialysis is inadequate to permit recommendation in this regard. Intravenous phentolamine (Regitine[®]) has been suggested on pharmacologic grounds for possible acute, severe hypertension, if this complicates Tenuate overdose.

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Charles V. Chapin: His Influence on Concepts of Public Health

A Quiet Man In A Small City Established Public Health Standards Which Earned World-wide Recognition

By Seebert J. Goldowsky, MD

In 1978 the Rhode Island State Department of Health celebrated its one hundredth anniversary. This event commemorated the enactment by the General Assembly in 1878 of an important statute establishing the State Board of Health. On April 12 of that year, Governor Charles C. Van Zandt, after signing this significant legislation, appointed six members to the new Board which was the forebear of the present State Department of Health. Through this act the health of the citizens of Rhode Island became an explicit concern of state government. Before that, it had been largely

the province of local communities. The Health Department of the City of Providence had by that time already attained a level of excellence that had accorded it a national reputation. Doctor Edwin Miller Snow, the first Superintendent of Health of the City of Providence, became almost as distinguished an authority in his day as did Doctor Charles V. Chapin, who is the subject of this essay. A resume of his attainments provides a background to Chapin's career.

Early Reforms

Born in Vermont in 1820, Snow graduated from Brown University in 1845. After studying with a physician in New Hampshire, he received his M.D. degree from the College of Physicians and Surgeons in New York after attending two courses of lectures, as was the custom. After practicing briefly in Holyoke, Massachusetts he entered practice in Providence in 1850. As a physician for the Providence Dispensary his practice among the poor brought him in contact with scores of cases of cholera in the great epidemic of 1854. He was especially interested in the disease and spent much time in investigating its causes and mode of spread. In the absence of a health authority in Providence he personally took heroic action to check the epidemic, and even before it had

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run its course he reported to the Mayor of Providence in January of 1855, summarizing the results of his inquiry. He sharply criticized the city's total lack of sanitary precautions and recommended stern measures to deal with the scandalous hygienic problems on a continuing basis. Louis Pasteur, the father of the germ theory of disease, had then barely begun his career, and the cholera vibrio, the bacterial cause of cholera, would not be discovered for another thirty years, when Robert Koch, the brilliant German bacteriologist, demonstrated its transmission by water, food, and clothing. Yet the importance of rectifying the shocking sanitary conditions prevailing in some of the poorer parts of the city was clear.

As a result of his persuasive arguments, Providence undertook significant health reforms, fully a decade before well publicized reforms were undertaken in New York City. In 1856 Providence established a permanent city health department and invited Snow to become its first Superintendent. As early as 1852 he had been instrumental in the passage of a State Registration Act, one of the earliest in the country. During the next twenty-six years as a member of the State Registration Commission, he personally compiled many of the state reports and became a recognized authority on the collection and use of vital statistics. In 1855, even before the establishment of the city health department, Snow was named City Registrar and Health Officer. He remained Superintendent of Health for twenty-eight years until his retirement in 1884. Besides writing numerous papers on statistical subjects and contagious disease, he served as librarian, treasurer, and president of the Rhode Island Medical Society and was a founder, vice president, and president of the American Public Health Association.

During the Civil War he was appointed Inspector of Hospitals by the United States Sanitary Commission. In 1863 he made an extended inspection tour of army hospitals in Philadelphia and in hospitals attached to the Army of the Potomac. In later years, he attended many national conventions of sanitarians. He served as Inspector of the State Prison and as a member of the State Board of Charities and Corrections. In 1872 he represented the state as a delegate to the Prison Congress in London and, in the same year, as a delegate for the United States Government to

the International Statistical Congress in St. Petersburg. Among the public improvements he recommended were the introduction of a pure water supply, the removal of cesspools, the building of pipe sewers, and the prevention of the pollution of rivers by proper sewage disposal. His many publications and reports included the first thirty-three Annual Reports on Births, Marriages, and Deaths in the City of Providence. He was elected a trustee of Brown University in 1876. He died in 1888, four years after his retirement, at the age of 68. In an obituary published in the *Transactions of the Rhode Island Medical Society* he was described as a leading authority on statistics in the United States, and was recognized as a statistician of great ability in England and on the continent. "In his scientific attainments," it stated, "he had no equal in this Society, and in him it has lost its most distinguished Fellow."

Doctor Joshua Chapin

Waiting in the wings was Charles Value Chapin, destined to be a distinguished successor. Chapin was born in Providence on January 17, 1856, the only son of Doctor Joshua and Louise Value Chapin. In carefully kept ancestral records he traced his origins in America back to 1635, when Samuel Chapin came from England with a group of Puritan emigrés. Charles's father, the son and grandson of New England Congregational ministers, grew up in Hillsboro, New Hampshire, but, unlike his immediate forbears, chose medicine as a career. He studied at a succession of New England schools, and attended Brown University. After the customary preceptorship with a practicing physician he took courses of lectures at the Harvard Medical School and at Berkshire Medical College in Pittsfield, Massachusetts, from which he obtained his MD. degree in 1838. While at Berkshire he came under the influence of the famous Doctor Elisha Bartlett, about whom Sir William Osler wrote a famous essay. Bartlett was a native of Smithfield, Rhode Island and had graduated from Brown University Medical School in the class of 1826.

Following graduation from medical school Joshua Chapin set up practice in Providence. Because of increasing deafness, he was obliged to give up the practice of medicine and opened an apothecary store in partnership with one George Thurber. After ten years of effort, this

enterprise failed. He then tried the photography business in company with the Manchester brothers, which proved to be highly successful. In 1842 he married Jane Catherine Louise Value of Providence, a talented artist, a successful teacher of drawing and painting, skilled in oils, water colors, crayon, and miniatures. She did portraits of many eminent persons, among them Chief Justice John Marshall.

Joshua never lost his interest in medical matters and science. While still in practice he won the Fiske Fund essay prize of the Rhode Island Medical Society twice. Influenced by his close friend, Edwin M. Snow, he became involved in the registration of vital statistics and in sanitary affairs of the City of Providence. In 1872 the City Water Commissioners engaged him to inspect the banks of the Pawtuxet River, then, as now, a major source of the Providence water supply, for possible evidence of pollution. He served also as State Commissioner of Public Schools for eight years.

Charles was nurtured in this busy and intellectual environment. Because of his father's objective approach to medical matters, he was spared the sulfur and molasses inflicted on his playmates every spring. His father's skepticism and his interest in science and statistics were certainly early influences upon Charles's career. The family spent summers on their farm in Barrington, and Charles would while away the lazy summer days swimming, sailing, digging for clams, and searching for Indian arrowheads on the bay islands or along the shore of Narragansett Bay.

Education and Training

In 1865, when he was nine, his father entered him in Mowry and Goff's newly established English and Classical High School for Boys. From the preparatory department he went on to the regular classical course, consisting of Latin and Greek, ancient mythology, geography, algebra, English grammar, and composition.

In 1872 he matriculated at Brown University in the Class of 1872. Tuition then was \$75 and room and board \$20. He took the usual classical and liberal arts courses and as much science and mathematics as he could muster. He studied physiology with Doctor Charles W.

Parsons, the son of the late eminent Doctor Usher Parsons, who had been the only surgeon at the Battle of Lake Erie and a founder of Rhode Island Hospital. Although not outstanding as a student, he was elected to Phi Beta Kappa and delivered a commencement oration on "Samuel Adams and American Independence." I personally have a clear recollection of his "Phi Bet" key dangling from his vest watch chain.

After graduation Charles started his medical training in the office of Doctor George D. Wilcox of Providence, who, although a practitioner of Homeopathy, was a leading physician of Rhode Island. Wilcox's medical education, superior to that of most of his contemporaries, included a New York medical degree and several years of study on the continent and in England. When Wilcox made house calls, Charles would sit in the carriage, reading anatomy. Occasionally, he was invited in to view a case and express his opinion. He showed his astuteness by rejecting Homeopathy because it did not produce results which warranted a separate school of medicine.

In 1877 Charles entered the College of Physicians and Surgeons in New York City, now the Medical School of Columbia University. The School had a distinguished faculty and access to large numbers of patients at Bellevue Hospital and Blackwell's Island. His most exciting teacher was the young Doctor William Henry Welch, who was later to be one of the small group of distinguished founder teachers at the Johns Hopkins Medical School. Welch had come to New York as an assistant to the brilliant Austin Flint, Senior, a well-known physician whose name is attached to a special type of heart murmur. Welch had just returned from Germany, where he had studied under Carl Ludwig, Julius Cohnheim, and F. D. von Recklinghausen, laboratory scientists of the first rank, who had contributed greatly to the breakthrough in the laboratory sciences of the 1870s and 1880s. He set up the first laboratory in America for the teaching of microscopic pathology. Out of the tradition of the German laboratories he introduced a method of teaching which was revolutionary in America, based on learning by observing and doing, rather than by the sterile memorizing of questions and answers. A classmate of Charles's was William Crawford Gorgas, the future great sanitarian who conquered yellow

fever in Cuba and in the Panama Canal Zone. He and Charles became lifelong friends and colleagues in public health. After commencement exercises on February 27, 1879 at the New York Academy of Music and a class dinner at Delmonico's, Charles began his internship at the famed Bellevue Hospital. On the staff were such outstanding physicians as Austin Flint, Sr.; Abraham Jacobi, pioneer pediatrician; and Edward S. Janeway, a leader in pathology. After six months as junior assistant, he served two six-month appointments as House Physician, one of very few house officers of the time to be accepted at the hospital for two successive assignments to that position. Janeway, like Welch, had a considerable influence on Chapin's career. During Chapin's internship, Janeway in addition to his clinical responsibilities was also Health Commissioner of New York City. On the Bellevue wards Janeway, aware of the recent work of Pasteur and Koch, often speculated on the possible significance of microbes in communicable disease as opposed to the then traditional theory of generation of disease out of filth.

Near the end of his internship, Charles participated in the first antiseptic operation at Bellevue, following the discovery of antiseptics in England by Lister in the 60's and 70's. Lister, in effect, applied the germ theory of infection to surgery, thus preventing suppuration, or what had traditionally been looked upon as "laudable pus." Charles operated the carbolic spray, which was the most visible part of the antiseptic ritual.

Early Career

Upon completing his tour of duty as House Physician on October 1, 1880, Charles returned to Providence to enter practice. He had a spanking new office, which had been furnished during the summer with the devoted assistance of his sister Louise. In June of 1880 he had already been awarded the Fiske Fund essay prize of the Rhode Island Medical Society for his paper on "The Sympathetic Nerve: Its Relation to Disease," thus following in the footsteps of his father. During the ensuing 29 years he would win the prize eight times in all, certainly setting a record which no one else is ever remotely likely to match.

Upon returning to Providence from New York, Charles moved in with his parents, his office being a few blocks away in a Victorian

Gothic building. Like many fledgling physicians before and since, he had plenty of spare time on his hands. In May of 1881 he presented his first paper before the Providence Medical Association on "The Pathology of Phthisis" (i.e. tuberculosis). In this paper he described the microscopic structure of tubercles, questioned the theory that tuberculosis was a tumor, and suggested that a ferment was active in the process. Pasteur had demonstrated in 1857 that fermentation was due to living organisms, a concept of which Chapin was most likely aware. In fact, he clearly stated in the paper that tuberculosis was an infectious process and "perhaps in some cases also a contagious disease." Koch announced the discovery of the tubercle bacillus in the following year. Chapin himself stained the tubercle bacillus and other organisms in his work at the Rhode Island Hospital beginning in 1882.

He soon became disenchanted with the stodginess of his fellow practitioners and the generally stultifying atmosphere then prevailing in the Providence Medical Association. Several progressive young practitioners formed a more lively group called the Providence Clinical Club to provide a forum for a more stimulating exchange of ideas. During the lean years he undertook some poorly paying charity work for the Providence Dispensary. As attending physician, he made hundreds of house calls per year for a period of two or three years. Like Snow before him, he thus became acquainted with the depressing and sordid living conditions of many of the poor of Providence and the diseases with which they were afflicted.

In 1882 Charles was appointed to the staff of Rhode Island Hospital, which had been opened 14 years earlier. The hospital had just established its nurses' training school, and Charles was selected as one of two lecturers. He gave the course in anatomy and physiology. He was also appointed part-time instructor in Physiology at Brown University. He served as librarian and part-time pathologist at the hospital, and in the latter capacity performed an occasional autopsy and certain diagnostic studies. Since his practice was disappointingly slow, he visited Asheville, North Carolina to canvas the possibility of practicing there. The South was not all that it was cracked up to be. He found the drinking water poor, the food

"execrable," and the train connections impossible. On his first day in Asheville he was involved in a buggy accident and fractured his thigh. With his plans disrupted, he decided to return to Providence as soon as feasible. Because of the splint, he was obliged to ride all the way home in the baggage car. The accident proved to be fortuitous as it opened up to him a new and challenging medical career, which, although it never made him rich, earned for him a national reputation and proved to be more satisfying than private practice.

In the fall of 1883, while still convalescing from his fracture, he was nominated and elected to the position of Superintendent of Health of the City of Providence, effective at year end. He accepted the position and withdrew from private practice. He resigned from the staffs of the Providence Dispensary and Rhode Island Hospital, but retained his teaching connection with Brown University for twelve more years until 1895, an exciting time at the University. He gave lectures in hygiene to freshmen and a semester course in physiology to juniors. His lectures, popular for their stimulating and imaginative style, earned for him a promotion to a full professorship in physiology in 1886.

In 1893, together with Hermon C. Bumpus, young professor of zoology, and chemistry professor John Appleton, he succeeded in establishing a coordinated program in premedical studies. The solid reputation for excellence which this program acquired proved to be lasting and provided a sound basis for the re-establishment many years later of the Brown University Medical School. Chapin also worked for the acquisition of a gymnasium at Brown in 1891 and the establishment of a physical education program for all Brown students. He became the first Director of Physical Culture at the University. He resigned from the Brown University faculty in 1895 to devote his full time and energy to his growing responsibilities as Superintendent of Health. His salary was \$2,000 per annum.

He had already given evidence of his capabilities as a public health investigator in 1880 when he surveyed an outbreak of malaria. In his report he refers to an essay on the subject by Doctor Oliver Wendell Holmes written in 1836. Holmes recalled various eruptions in Rhode Island dating back to

Revolutionary times. Doctor Usher Parsons in a letter to Holmes had noted an outbreak in the vicinity of a dam recently built across the Moshassuck River. Chapin acknowledged that the causative agent of malaria was unknown, but speculated that "the swampy land near Mashpaug Pond and around the Oriental Mill played an important part in producing the cases of intermittent fever that occurred there this summer." He suggested that drainage of the swamp would end the risk. That was, in fact, the year that Lavarán, a French Army Surgeon, while on duty in Algeria, discovered the malarial parasite. Another 18 years passed before the mosquito was demonstrated conclusively to be the vector of the malarial parasite. In that same year (1898) the eminent Doctor Richard L. Cabot of Boston described before the Rhode Island Medical Society the detection of the malarial parasite in blood specimens from victims of the Spanish-American unpleasantness. In 1900 Doctor Frank Fulton of Providence, later a distinguished cardiologist, demonstrated to the Society stained specimens from malarial patients. Many years later, in the mid-twenties, when I was a college student, I can remember the flying squads of mosquito sprayers, like cowboys, riding the streets of Providence in motorcycles and sidecars, spraying oil on catch-basins and other water accumulations. This activity of the Health Department was under the aegis of Professor Frederic P. Gorham of Brown, who was also the bacteriologist in Doctor Chapin's Health Department. It seemed to me then that football stars (those were the days of Brown's Iron Men) had somehow an inside track to these desirable summer jobs, although I may have had some bias.

Sanitation and Public Health

At the time when Chapin took over the Health Department, the age of bacteriology was just beginning to flower. His training in New York and his experience as pathologist at the Rhode Island Hospital were to prove invaluable to him. He was the first public health officer in America to bring this background to bear in developing his philosophy of public health administration. He came to believe that the city should become involved in eight broad categories of sanitary activity: 1. control of communicable diseases; 2. abatement of nuisances; 3. removal of garbage and refuse;

4. supervision of conditions in schools and public institutions; 5. supervision of factories and trades; 6. inspection of water, ice, and milk; 7. local scientific investigations into sanitary matters (including registration and analysis of vital statistics); and 8. the dissemination of sanitary information.

He set out to combat disease in the city by every means at his disposal. In the beginning, this was largely a matter of continuing and elaborating upon a general program which Snow had ably established. The essence of his sanitary endeavors, at least so far as the public was concerned, was the campaign against dirt.

He undertook to advance his program by advising the public of the existing shortcomings and to recruit the political leadership (then Republican) to advance his aims. He was a modest and unpretentious man and succeeded in accomplishing his goal without antagonizing people or ruffling tempers. He was unfailingly courteous and affable, dressed neatly and conservatively, and never gave up his stiff, wing-tipped collars, and high black shoes. I well remember these attributes. My father, who was a younger contemporary of Chapin's, wore both of these accoutrements, but gave them up in the early 1920s.

After almost two years of engagement to Anna Augusta Balch, a Providence girl of old New England stock, he married her on May 6, 1886 at Grace Episcopal Church in what was described in the local newspapers as a "fashionable" wedding. They spent their honeymoon in Washington, D.C., and then settled down on the East Side of Providence. He spent all of his leisure time with his wife and one son, and usually traveled with them to conventions of health officers. They took advantage of such trips to visit Niagara Falls and Quebec and to attend the St. Louis World's Fair.

Despite Snow's effective pioneering work, much remained to be done by Chapin. The city had a good water supply, the streets were fairly clean, it was relatively free of offensive trades, and its housing was in comparatively good condition. Yet, less than a third of the houses were connected to the public sewerage system, many still depended upon wells for water, a majority had badly defective plumbing, backyards were often piled with decaying garbage, and swill carts and nightsoil wagons dropped their noisome and dangerous

cargo along the streets. There were hundreds of stables, polluted streams, dead dogs and horses, and thousands of foul privies and cesspools.

Chapin himself did not fear foul odors as such, but he was convinced that filth aided and abetted some diseases. He was one of the few American sanitarians before 1885 who embraced the concept that the danger in filth was not in the stench, but in specific disease organisms. Yet, since no one had yet proved conclusively that no disease ever was generated spontaneously, it behooved him to pursue a clean environment not only for esthetic, but for potential health reasons as well.

He urged that all wells be abandoned, that yards be cleaned, and that plumbing be repaired. He insisted that the city cease polluting the public waters and accelerate sewer construction, and that private homes be connected to the sewerage system or regularly clean their privies and cesspools. The Victorian house in which I grew up in the Washington Park area of Providence was connected to the city street sewers, but I have memories of a small round iron manhole cover in the backyard which covered a dry cesspool cistern made of stone riprap. Cesspools, of course, are still used in suburban communities surrounding metropolitan Providence. Chapin was frustrated throughout his career by a confusion of laws and a tangle of legal red tape.

In 1887, in the face of a threat of cholera, he obtained tighter quarantine regulations, put inspectors at the railroad station and the New York boat landings, fumigated newly arriving immigrants, and conducted clean-ups on an emergency basis. Either because of these measures or through good luck, cholera did not come to Providence. Despite sustained resistance on the part of householders, he obtained authority in 1892 to compel removal of privies and cesspools where street sewage lines were in operation.

For garbage disposal he had a contract for a while with a forward-looking commercial firm which converted the waste to fertilizer. While several generations ahead of its time, it proved to be a financial failure. Consequently, he reverted to allowing the feeding of garbage to hogs without detecting any demonstratable increased risk of disease. Some believed the garbage system in Providence in the 1890s and

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later to be among the best among American cities.

During the 1870s a considerable portion of the population of Providence had availed themselves of the new municipal water supply. This had contributed greatly to the nearly 15 per cent drop in the annual death rate from typhoid fever. Yet he was not satisfied with the progress and devoted his energies to water purification. A single case of typhoid in the Pawtuxet Valley could, through contamination from the mill and tenement privies, cause an epidemic in Providence. In the fall of 1888 there was a severe outbreak of typhoid fever in the city. In a two week period there were 223 cases and 47 deaths.

Bacteriology Comes of Age

At this point a brief digression is in order to highlight the brilliant and breathtaking achievements in bacteriology during the brief period from 1876 to 1894. Koch's landmark discovery of the bacillus of anthrax in 1876 was followed by his demonstration of bacteria as the cause of wound infection, and then in rapid succession, by the discovery of the causative organisms of gonorrhea (1879); typhoid (1880); tuberculosis by Koch (1882); cholera, again by Koch (1883); erysipelas (1883); diphtheria (1887); tetanus (1884); pneumonia (1884); meningitis (1886); gas gangrene (1892); and plague (1894). The chain of discoveries, of course, continued beyond that date. These were indeed heady times to be an active participant in the public health movement.

Just prior to the typhoid outbreak, Doctor Gardner T. Swarts, a young practitioner in Providence, had joined the department as Medical Inspector and, with Chapin's encouragement, had taken special instruction in the latest bacteriological techniques at the Harvard Medical School, which at that time was pioneering in the field in America. The use of a competent medical inspector as opposed to a nuisance inspector was in itself somewhat of an innovation. The Bacteriological Laboratory of the Providence Health Department was the first of its kind anywhere in the United States.

Even though the typhoid bacillus had been known for eight years to be the cause of the disease, Chapin in seeking an explanation of the outbreak of 1888 had to consider many

factors. While there was a possibility that local unsanitary conditions played a part, the wide distribution of cases, even in well-sewered areas, suggested to Chapin that water pollution was a more plausible explanation. He wrote to all of the doctors in the Pawtuxet River Valley and personally examined both banks of the river. In one area in Natick, where there had been 20 cases of typhoid, persons who had cared for the sick were known in their ignorance to have thrown the excreta on the ground, rather than into privies. As it happens, there was about that time a spell of heavy rainfall. Chapin calculated the elapsed time between the appearance of cases in Natick and the outbreak in Providence, allowing for the incubation of the bacteria, distribution time in the water mains, and the time that the polluted water remained in the reservoir. One section of the city that had had no typhoid was served by a reservoir that received little Pawtuxet water. Chapin was thus able to substantiate beyond a reasonable doubt that polluted river water had caused the epidemic. This was a classical epidemiological achievement in the tradition of John Snow of London (no relation of our own Edwin M. Snow), who in 1854 had proved by epidemiological deduction that an outbreak of cholera in St. James's Parish had emanated from one specific well. When the pump handle was removed, the outbreak ceased.

Household water filters were in vogue in Providence at the time. Chapin proved them to be useless as he had actually cultured typhoid bacilli from them. Chapin traveled all over the country to study water filtration and, as head of a commission appointed by the Providence City Council, carried out experiments which attracted national attention and commendation. As a result of these studies, he recommended mechanical filtration using an aluminum sulfate coagulum as being both inexpensive and effective. The City Council, however, perversely adopted the more expensive sand filtration method, which performed adequately until Providence's new excellent water supply was inaugurated in 1926 using the more cost effective mechanical filtration method that Chapin had long advocated.

In his initial report as Health Officer in 1884, he conceded the need for environmental cleansing and the abatement of nuisances, but argued that "more attention might well be

given to the prevention of the more common infectious diseases, and more time devoted to their scientific investigation." This was not only a clear-sighted view of the future, but an accurate forecast of the course which he would pursue so successfully.

Chapin had advocated the use of "humanized" virus in vaccination against smallpox until the newer safe glycerinized bovine virus introduced after 1901 under federal standards was available. Chapin was convinced, and he was confirmed in this by Snow, that the vaccine used in Providence until 1901 was descended by direct arm-to-arm transfer from virus used by the eminent Benjamin Waterhouse of Boston and Harvard, who was incidentally a native son of Newport, Rhode Island. This had been sent to Waterhouse in 1801 by the English physician Edward Jenner, discoverer of smallpox vaccination from a strain started in 1798. Jenner had performed his first vaccination in 1796 on a boy, using cowpox from a pustule on the hand of a dairy maid. Thus the strain used in Providence had through careful handling provided complete protection without secondary infection for more than a hundred years.

In the 1880's Chapin conducted an aggressive campaign to persuade the local medical profession to report all cases of scarlet fever and diphtheria, and handed out fines which gained him national attention. In the period to the turn of the century he made one of his most renowned contributions. Disinfection of the premises after smallpox and other contagious diseases had been an article of faith. Fumigation with sulfur was the universal method. A bad odor was in the popular mind an essential property for an effective fumigant. He first turned to steam disinfection, but by 1900 he was convinced that terminal disinfection was ineffective in preventing the spread of disease. He spoke widely on what he called the "fetish of disinfection" until his concepts came to be widely accepted.

New Way To Control Infectious Disease

Isolation of the sick promised much more in the control of infectious disease than did disinfection, which he caused to be discredited almost singlehandedly. If the sick could not be segregated from the well, there was no use in fumigating houses or steaming bedding. Among the more privileged, isolation in the

home was feasible, but for poor families in crowded tenements isolation was another matter. Chapin undertook a vigorous effort to procure an isolation hospital for Providence. Except for the traditional pesthouses for smallpox, few such establishments existed before 1900. His annual reports filled with statistical data and careful analyses provided much of the proof regarding the contagiousness and immunity of diphtheria, scarlet fever, and measles. How contagious are they? As late as 1928 the answer was: "Except for the City of Providence, Rhode Island, nobody knows." After 1895 the Providence Health Department distributed free diphtheria antitoxin. Chapin made negative cultures the criterion for releasing from isolation of patients with diphtheria. Isolation was important, but he felt that it should be reduced to the lowest limit compatible with the objective sought. He released patients when they presented no more danger than the well.

In 1901 he completed a massive volume titled *Municipal Sanitation in the United States* containing an incredible 970 pages. Described as a comprehensive study of public sanitary methods, it helped to solidify his growing national reputation as a public health authority.

Isolation of contagious diseases in the home is within the memory of many of us. The houses were placarded with brightly colored cards to warn those entering the premises, and the patients were not allowed to attend school or work until the appropriate cultures were negative or an appropriate time had elapsed. In the meantime, Chapin worked indefatigably to convince city officials and the populace of the acceptability and environmental safety of an isolation hospital. After long delays construction of the Providence City Hospital on Eaton Street was commenced in 1908. The hospital opened its doors in 1910. It was the first contagious disease hospital in the United States to apply the aseptic nursing techniques on a full scale. Chapin had first seen it applied at the immaculate Pasteur Hospital in Paris. It was based on the concept that transmission of infections between patients was effected by contact, rather than through the air. The airborne component was eliminated by adequate spacing of the beds or use of cubicles. Thus, cross infection was prevented simply by minimizing the opportunity for infection by contact. Strict cleanliness was

enforced. Although not generally necessary, different diseases could now be cared for in adjacent beds and by the same nurse. A red card on the door with the word "Barrier" indicated that the aseptic technique was in effect. Nurses and doctors who handled patients scrubbed their hands scrupulously after contact (only for 3 minutes, incidentally) and changed their outer cotton gowns before leaving a room or an area to care for a different infectious disease. Doctor Dennett L. Richardson, who later himself became Superintendent of Health in Providence and still later administrator of Rhode Island Hospital, was the first and long-time hospital superintendent. The Providence City Hospital had an extremely low cross-infection rate and proved the value of its methods in the first year of operation. The hospital quickly became a center for the training of nurses and doctors in the modern techniques.

For a brief six months in the 30s I was a house officer in the hospital. I remember well its ambience and its scents. At that time, even before the advent of the modern antibacterial drugs, changes were in evidence. Diphtheria was almost non-existent due to the use of the Schick test and diphtheria immunization, both introduced by Chapin. In fact, I did not see a single case while I was there. In 1933 there was not a death from the disease in Providence. Scarlet fever, too, was noticeably milder, a phenomenon observed by Chapin himself. These were the great killers of earlier years. The introduction in 1935 of the sulfonamides and of penicillin in World War II, followed by a whole galaxy of other antibiotics, changed drastically the natural history of infectious diseases. The large epidemic of infantile paralysis in 1935 was the last great inundation of the hospital. The advent of poliomyelitis immunization has eliminated one more of the infectious disease scourges. A pavilion for the treatment of advanced tuberculosis, added to the hospital in 1912, was also showing while I was there evidences of declining activity due to the general improvement in health, hygiene, and the standard of living in the community, as well as the isolation of active cases. The death knell of TB was sounded by the introduction of streptomycin and later other more antitubercular drugs.

The decline of the hospital, already in evidence in the 1930s, was thereafter progressive and accelerated, leading to its ultimate closing

in 1966 because of lack of patients. The buildings and grounds are now a part of Providence College.

Tributes and Honors

Chapin had hoped to round out fifty years as superintendent, but, ill and tired, he resigned from his post effective January 1, 1932, two years short of his goal. As his last official act, he had himself revaccinated. His retirement was taken note of at boards of health meetings all over the country. The Rhode Island Medical Society described him as the "greatest (physician) who has yet lived" in Rhode Island. He was made Emeritus Superintendent of Health with a desk in City Hall for as long as he should live. The now-famous Providence City Hospital was renamed the Charles V. Chapin Hospital, the honor which he appears to have cherished most deeply. He was awarded the Rosenberger Medal of Brown University, perhaps the greatest contributor to humanity of any Brown graduate. The honors he received both in his active years and in retirement are too numerous to mention. He had served on several important committees of the American Public Health Association. In 1926, after having refused the honor on several previous occasions, he was elected to its presidency. He was awarded the Marcellus Hartley Honor Medal of the National Academy of Sciences and was the first recipient of the Sedgwick Memorial Medal of the American Public Health Association for "distinguished service in public health." In London he was awarded Honorary Fellowship of the Society of Medical Officers of Health, an honor which had come to few Americans. Honors came to him from around the world, both at a dinner in 1926 celebrating forty years of service as Superintendent of Health, and upon his retirement. The Rhode Island Medical Society commissioned a portrait painting of him, the first in the Society's history, which was unveiled at a special ceremonial. Students and colleagues by the scores from America and from abroad, including a whole generation of Rockefeller Fellows, made the pilgrimage to Providence during his active years and after his retirement, both to learn at his feet and to pay homage. He held teaching positions at various times at Brown University, the Harvard Medical School, the Harvard School of Public Health, and the Massachusetts Institute of Technology School for Health Officers. In

1909 after giving a course of lectures on hygiene at the Harvard Medical School he was invited to occupy there the first chair of preventive medicine in America, but declined. It was filled by the distinguished Milton J. Rosenau. In 1914 he delivered six Cutter Lectures on preventive medicine at the Harvard Medical School on the subject of "Municipal Sanitation."

He was described as "a man of great charm in whom wisdom combines with humor." His "sweetness and simplicity" were recognized attributes. When his associates did not perform their duties in accordance with his standards, "he could express his displeasure as effectively as a drill sergeant." He was warm and kindly despite a somewhat austere appearance, but could vent scathing sarcasm when confronted with sham or pretense. Yet he rarely offended because of his fairness and unfailing courtesy.

After two years of increasingly poor health, Chapin died on January 31, 1941 in his 86th year. Funeral services were held at the Central Congregational Church, and he was buried in Swan Point Cemetery. His wife Anna survived him by a few years.

A bibliography of his publications by the late Professor Frederic P. Gorham published in 1934 contained 133 items, consisting of books, pamphlets, technical papers, and health reports. A few of the titles will suffice to give the range of his interests: "The Value of Terminal Disinfection," "Measures for the Prevention of Asiatic Cholera in Providence," "The Restriction of Contagious Diseases in Cities," "The Purification of Drinking Water in Cities", "Municipal Sanitation," "Studies in Air and Contact Infection at the Providence City Hospital," "The Value of Human life," "Scarlet Fever," "The Purification of Drinking Water for Cities," "Variation in Type of Infectious Disease as Shown by the History of Smallpox in the United States," "The Problems of the Health Officer," "The Evolution of Preventive Medicine," "The Science of Epidemic Disease," and that classic, "The Fetish of Disinfection."

Almost lost among the array of technical papers and books in Professor Gorham's bibliography is an item which adds a charming grace note to this dedicated career. In 1925, together with his wife Anna Augusta Chapin, he published a slender volume titled *A History*

of Rhode Island Ferries, 1643-1923, relating the story of every ferry that had ever run in the state, a labor of love which represented seven years of poking around in the backwaters of history.

His credo is best expressed in these words: "Science can never be a closed book. It is like a tree, ever growing, ever reaching new heights. Occasionally, the lesser branches, no longer giving nourishment to the tree, slough off. We should not be ashamed to change our methods; rather we should be ashamed never to do so. We should try new things, but should show common sense about it." These were the precepts he followed.

After Chapin's death the Rhode Island Medical Society honored his memory by the establishment of the Charles Value Chapin Annual Oration. The first oration was delivered at the annual meeting of the Society on June 3, 1942. Following consultation with the Rhode Island Medical Society, the Providence City Council in 1944 appropriated funds to underwrite the lecture and provided for a suitable medal to be presented to each annual speaker. The tradition has been carried on since then. The Mayor of the City of Providence in person, or his designate, presents the medal at the annual meeting. The speakers have been prominent in public health or have made significant contributions to the health of the people. Thus, this quiet, unassuming man of genius is remembered by the local medical profession, of which he was proud to be a part, and by the city to which he contributed so much.

Bibliographical Note

The material in this essay is largely available in secondary sources, although the author examined many of the original papers. The detail on Edwin M. Snow is well summarized in his obituary in the *Transactions of the Rhode Island Medical Society* Volume IV, Part I, 1889, p. 91. Another valuable source is the chapter on "Epidemics and Medical Institutions" written by Charles V. Chapin for *State of Rhode Island and Providence Plantations at the End of the Century: A History* compiled by Edward Field, Volume II, of 3 volumes, Chapter I, pp. 1-80, published by the Mason Publishing Company, Boston and Syracuse, 1902. A useful text is *The History of the Rhode Island Medical Society*

and *Its Component Societies 1812-1962*, published by the Rhode Island Medical Society in 1966.

The definitive work on Chapin is *Charles V. Chapin and the Public Health Movement* by James H. Cassedy published by the Harvard University Press, Cambridge, Massachusetts, 1962. A good selection of his papers and an exhaustive bibliography of Chapin's writings is contained in *Papers of Charles V. Chapin, M.D., A Review of Public Health Realities*, selected by Frederic P. Gorham, Edited by Clarence L. Scamman, with a foreword by Haven Emerson, published by the Commonwealth Fund, New York, and the Oxford University Press, London, 1934. Many of Chapin's handwritten manuscripts are preserved in the library of the Rhode Island Medical Society. Because of the completeness of the documentation in the latter items, an extensive bibliography here would be redundant.

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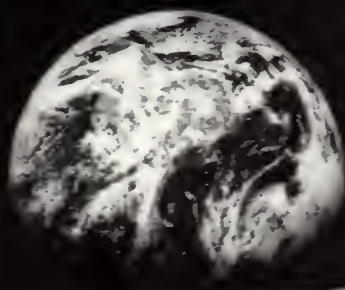
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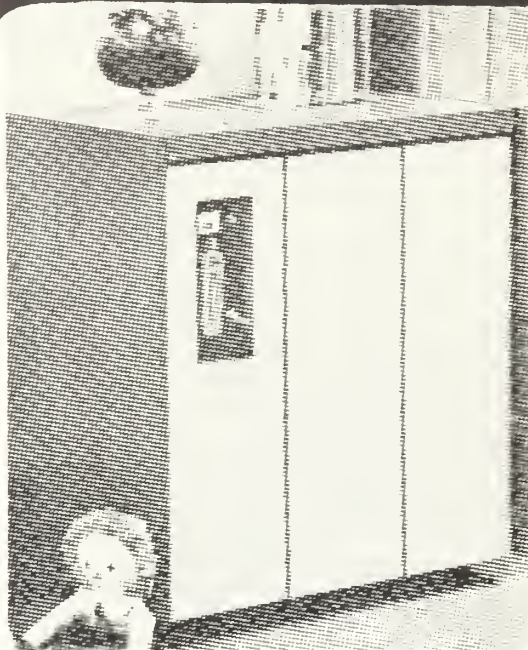
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Experiences with Harrington Instrumentation for Unstable Fractures of the Truncal Spine

A New Approach To Management Of Unstable Truncal Spinal Fractures Is Recommended

By A.A. Savastano, MD
Louis A. Corvese, MD
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Fractures of the thoracic and thoracolumbar spine which result from severe violence are frequently unstable and often associated with significant neurological involvement. Treatment of such injuries has been a challenge and often a discouraging chore to

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those responsible for the care of such patients. A few observations are appropriate as an introduction to this paper. The Rhode Island Hospital is a tertiary care facility, the principal one in the state of Rhode Island. Cases of severe trauma from a geographic area with a population of over 500,000 are customarily referred for immediate and sometimes delayed primary care. The hospital is not a designated spinal care center as such. The immediate primary treatment often determines the ultimate outcome in cases of fracture-dislocation with incomplete neurological involvement. New insights and changing concepts in the management of spinal injuries suggested documentation of our recent experience. While the number of cases is small, it represents our experience during a 14 month period, during which we have revised our thinking and adopted new methods. The individual cases have varied as to type of fracture, with either actual or virtual (potential) instability, and from total and irreversible paraplegia to no neurological involvement.

The treatment of such fractures in our hospital had been for the most part a semi-coordinated effort involving neurosurgical, orthopedic, and often urological specialties. It had been the custom in the past to admit to the

orthopedic service cases with no neurological involvement and to the neurosurgical service cases with neurological involvement. Neurosurgical measures would usually precede definitive management of the fracture. In some instances neurosurgical approach to the spinal contents would already have been initiated. The initial surgical approach followed the traditional concept of 'decompression' for the spinal contents with consideration of the fractures as a secondary problem. The notion of reduction and stabilization of vertebral fractures had not until a few years ago been appreciated as to its fundamental indeed critical importance. In this regard, this concept of the management of fracture-dislocation of the cervical spine in a sense preceded that of the truncal spine. The principles and methods of stabilization of the cervical spine are now widely accepted. Further, neurological assessment is also simpler in the cervical spine. The main consideration is the spinal cord itself, usually an 'either or' situation. There have been no recorded cases of documented recovery from complete and total quadriplegia of immediate onset.

The situation is similar for the mid-thoracic spine, but quite different for the thoracolumbar region. The phenomena of 'root escape' and 'sacral sparing' are peculiar to the thoracolumbar spine. The full implications of these phenomena have not always been appreciated by orthopedic and other surgeons who have been confronted with such cases. The recent history of the management of injuries of the truncal spine in our opinion justifies the view that the more aggressive newer methods have been more successful, and, in the final analysis, more 'conservative'. The consensus among the very recent contributors in this field we believe supports this view.¹¹⁻¹⁴

Background

The principles of contemporary treatment were first enunciated by Nicoll in a classic paper which appeared in 1949.¹ He noted that in certain cases the best treatment was no treatment. He reasoned on the basic premise that a good anatomical result is after all the primary concern in fractures of the spine. He proposed a 'functional treatment' consisting of bed rest with a gradual program of exercises for stable fractures and a 'protective plaster' for unstable fractures. He was referring of

course to fractures without paraplegia. Of paramount importance was his observation of recovery from complete lesions of the cauda equina. "If this possibility is accepted," he concluded, "the lumen of the neural canal should be restored and stabilized in that position." The principle embodied in this statement was attributed to Rogers. He further noted that such a position of reduction could be maintained only by some form of graft or other means of internal fixation.

The further groundwork and indeed the bedrock from which contemporary methods derive was a series of articles by the late Sir Frank Holdsworth beginning in 1953.²⁻⁴ He reviewed the anatomy of the spinal cord and nerve roots at the thoracolumbar level and proposed use of the term 'root escape'. He proposed a classification of neurological injury at the thoracolumbar level into three clinical types and stressed the importance of proper assessment for purposes of treatment and for prognosis. He proposed a classification of fractures into stable and unstable types and properly assessed the role of the posterior ligaments and articular processes. He minimized the importance of x-ray appearance alone and resolved the paradox of paraplegia with deceptively innocent films. He used the term 'slice' to describe the torsional fracture-dislocation which is the most common type associated with paraplegia. He minimized the value of lumbar puncture (myelography) in assessing patients for treatment or in prognosis. In 1962 he proposed an expanded classification of fractures which was applicable to the thoracic and thoracolumbar spine so that both stable and unstable fractures could be correlated with type of violence or mechanism of injury. The Holdsworth classification provides a rational basis for management of fractures of the spine.

Type I fractures arise from pure flexion forces, the common compression fracture with anterior wedging. Type I was described as stable and is not usually associated with neurological involvement. Type II fractures arise from combined flexion and rotational (torsional) forces, usually with rupture of the posterior ligaments and fractures on one or more facets. Type II was described as extremely unstable and is the type most commonly associated with paraplegia in the thoracolumbar spine. Type III fractures arise from pure extension forces and are rare except

for the cervical spine. Type III was described as stable. Type IV fractures arise from pure compression forces transmitted axialwards through the bodies of the vertebrae. Type IV was described as stable inasmuch as ligaments are usually intact. This is the 'burst' or explosion fracture which usually occurs in the cervical and lumbar spine, frequently with neural involvement from retropulsion of fragments into the spinal canal. Another type was described in the review of 1972. Type V fractures arise from a shearing force imparted directly to the back with a complete shearing of the upper from the lower segment. Type V which would be described as completely unstable usually occurs in the thoracic spine where some stability derives from the rib cage.

Neurological assessment must be correlated with the fracture level in order to ascertain the actual extent of neural injury. Prognosis and to a certain extent treatment will be determined by the presence or absence of injury to the spinal cord. The pattern of neural injury should be precisely defined, particularly as to whether there is a lesion, either complete or incomplete, of the spinal cord. In this regard Holdsworth stated that in managing over 1,000 cases he had never seen a single instance of recovery from a true complete cord lesion. The patterns of possible neural injury depend on the level of bony injury — pure cord lesions above T10, mixed lesions to L2, and pure root (cauda equina) below L2. Clinical manifestations can be complete or incomplete. Holdsworth emphasized that diagnosis of an incomplete cord lesion required "the presence of voluntary activity in the sacral segments". Voluntary activity in the lumbar segments is evidence of 'root escape' and not of an incomplete cord lesion. Recovery from a complete cord lesion has not been observed, whereas recovery from incomplete or apparently complete root lesions can occur.

The objectives of treatment were facilitation of care and avoidance of complications in complete paraplegia and to preserve residual neural function as well as to enhance possible neural recovery in incomplete lesions. Holdsworth in his final paper indicated his belief "that there is never any indication for laminectomy," although he allowed of a "possible exception" for a progressive partial paraplegia. He favored operative treatment for irreducible fractures and internal fixation

using plates for inherently unstable fractures until fusion could be achieved.

Interim Developments

The issue of laminectomy in traumatic paraplegia has been increasingly questioned in recent years. Kelly and Whitesides in 1963⁵ discussed the treatment of lumbodorsal fracture-dislocations based on the concept of the spine as two weight-bearing columns. They favored operative restoration of stability to the posterior column using plates, but recognized occasional need for strut grafting of the anterior column as a second stage procedure. Laminectomy was considered to impair stability and deemed inadvisable except "for patients in whom indications can be precisely defined".

Roberts and Curtis in 1970⁶ described a modification of Holdsworth's classification, noting that even Type I fractures may be unstable, notably with unrecognized fractures of the posterior elements. They further observed that spontaneous fusion may not always occur in fractures originally thought to be stable and that deformity will invariably increase in unstable fractures.

Kauffer and Hayes in 1966⁷ compared treatment by laminectomy alone with closed methods and with open reduction and fusion. They concluded that laminectomy was contraindicated in acute fracture-dislocation because existing instability was increased and decompression was more effectively achieved by operative reduction. The only allowable indication for laminectomy would be increasing neurologic deficit following operative reduction and stabilization. Myelography was considered to be of questionable diagnostic value.

Harrington instrumentation was initially introduced for use in stabilization of the scoliotic spine. The extension of indications to use in fracture-dislocations was inevitable. The first recorded use for stabilization of a fractured spine was by Dickson and Harrington in 1960 as reported in 1973.⁸ However, the first documentation of such usage was in 1967 with description of a technique for instrumentation and fusion.⁹

Katznelson in 1969¹⁰ reported on "the method of decompression and internal fixation" with Harrington instrumentation on 9

cases of fracture below T9 with "paraplegia." In prior cases he had employed dual plate (Neurig-Williams) fixation.

The increasing usage and acceptance of operative reduction-stabilization with Harrington rods is providing stronger clinical evidence to the theoretical opposition to laminectomy. Hannon in October of 1976¹⁰ reported on 23 cases of instability of the thoracic or lumbar spine following either trauma, or laminectomy, or both.

Roberts and Curtis in 1970⁶ described use of Harrington rods for stabilization in conjunction with fusion following laminectomy. Whitesides and Shah in June of 1976¹¹ reported on the use of Harrington rods and discussed the role of anterior decompression with posterior stabilization. The significant paper from the University of Minnesota in March of 1977 by Flesch, Leider, Erickson, Chou, and Bradford¹² was a substantial clinical study (40 cases) of injuries to both the thoracic and thoraco-lumbar spine. Another clinical study by Bradford et al¹⁴ of 11 cases of injury to the thoracic spine only, some of which may have

been included in the prior study, appeared in September of 1977.

Case Report

A 22-year-old male was thrown from a motorcycle. He was amnesic concerning the accident and was found by a passing motorist. Physical examination was recorded within 2 hours of injury. There was a large (5x13 cm) hematoma with marked tenderness over the mid back. Spinous processes could not be palpated because of the swelling. There were no signs of neurological deficit, with preservation of motor and sensory function to the lower limbs, normal sphincter tone, and intact reflexes. Films showed a wedge compression fracture of the body of T12 (50 per cent) with a question of fractures of the pedicles. Angle of kyphosis measured 30 degrees. Admission was to the orthopedic surgery. He was initially treated with bed rest. Tomograms (Figs. 1 and 2) confirmed a fracture of the pedicle on the right side and, in addition, showed a fracture of the spinous process of T12. Myelogram (Fig. 3) showed an incomplete block at T11-



Figure 1. A tomogram confirms a fracture of the pedicle on the right side.



Figure 2. A tomogram shows a fracture of the spinous process of T12.

T12. He then developed symptoms of a neurogenic bladder, confirmed with cystometro-gram. Spontaneous recovery of bladder function occurred. Fracture was classified as Type I of Holdsworth. The fracture was considered to be virtually (potentially) unstable. Surgical exploration of the bony spine was performed at 3 weeks following injury. Several non-displaced linear fractures of the posterior elements of T9 and T11 were encountered, not identified on preoperative films. Laminectomy was not performed. Stabilization (Figs. 4 and 5) was performed using two Harrington Rods in the distraction mode from T9 to L3 on both sides with posterior fusion using autogenous iliac bone. Postoperative course was uncomplicated as regards the back. However, he developed a stress ulcer with minor manifestations, which resolved with conservative treatment. A plaster body jacket was applied at 4 weeks and ambulation initiated thereafter. He was protected with a Jewett brace for a period of 10 months. Current follow-up confirms no neurological deficit. He is free of back pain within. Films show an abundant fusion mass. Angle of kyphosis measures 25 degrees.



Figure 3. A myelogram shows an incomplete block at T11-T12.



Figure 4. Stabilization using two Harrington Rods in the distraction mode from T9 to L3.



Figure 5. Stabilization using two Harrington Rods in the distraction mode from T9 to L3.

This case was unusual in that there was initially no neurological deficit, although the fracture was considered to be potentially unstable. The transient bladder dysfunction with a T5 injury was considered significant in light of the concept of a 'critical zone' between T4 and T9 as proposed by Domisse.¹⁵ Plain films alone would have indicated posterior elements to be intact. Tomograms then suggested fracture through a pedicle. Myelogram indicated partial block. There would probably be scant historical precedence for stabilization in this case. There was no indication for laminectomy. Harrington fixation with fusion was considered to be justified and was our treatment of choice. We had encountered no similar cases in our review of the literature dealing with Harrington instrumentation.

Clinical Data

Prior to June of 1976 instrumentation for treatment of fractures of the truncal spine was not seriously considered an option at Rhode Island Hospital. However, following the impetus provided by Doctor Donald Pearce of Boston as an invited speaker to the hospital in April of 1976, there was increased awareness of the alternatives to traditional methods. Thus in the period of 14 months from June of 1976 to August of 1977, a time of concerted efforts to unify and consolidate neuro- and orthopedic surgical efforts, a total of six cases of acute unstable fractures of the thoracic or thoraco-lumbar spine were treated by Harrington instrumentation for fixation.

The six cases in this period consist of 5 men and 1 woman, between the ages of 22 and 45 years, all of whom suffered spinal fractures as a result of serious falls or other accidents. Neurological damage varied: in two cases there was complete cord injury; in two cases cord injury was incomplete; in two cases there was no neurological damage. In three of the cases with neurological involvement neurosurgery with laminectomies preceded the performance of the Harrington fixation procedure. The value of the laminectomies is now questioned. In one case with neurological involvement, in which Harrington fixation was performed, laminectomy was not considered.

The fractures included one case of Holdsworth Type I, two of Holdsworth Type IV (one bursting), one of Holdsworth Type V, one of Holdsworth Type I and Type IV, and

one of severe bursting type fracture of the body of L2 (and a Lisfranc fracture dislocation of the foot). Harrington fixation using two rods in the distraction mode on both sides was performed successfully in the six cases. In three of the cases fixation was followed by fusion using autogenous bone from the iliac crest.

Discussion

In the two cases presenting with a complete cord lesion no recovery was detected, although some sensation consistent with incomplete 'root escape' was present in one case. In no case could neurological improvement be attributed to the 'decompression' stage of surgery.

Myelography would not in any case have altered the proposed management based on principles previously stated. Surgical decisions probably should not be based on myelographic findings. However, the presence of contrast medicine can be of value during operation in confirming realignment and volume restoration of the spinal canal as evidenced by the liquid leveling phenomenon.

Decompression posteriorwards is contraindicated except possibly in instances of progressive deficit. In such cases decompression may be better accomplished anteriorwards in the thoracic spine and either posterolateralwards or anterolateralwards in the thoracolumbar or lumbar spine. No cases were suitable for anterior decompression. Removal of loose posterior elements as in unstable flexion-rotation injuries ('slice fracture') is not in violation of the rule. Removal of intact posterior elements solely for inspection is contraindicated.

Stabilization was accomplished in all cases using the distraction mode. No case required the compression mode. Stabilization for at least two levels above and two below the fractured vertebra³ should be the minimum requirement. Asymmetric placement of rods in the presence of an unstable fracture is not desirable. A precise force analysis was not performed, but it appears that a force couple about one or another axis is established.

Autogenous bone is preferred over heterogenous (bank) bone for fusion, especially if posterior elements are absent. Fusion posteriorwards should be extended to the transverse processes in unstable fractures and if these are absent posterior elements.

Pre-and postoperative management of complete lesions is facilitated by the use of either a Stryker or Foster frame. Vitrethene® jackets are useful in the early stages of mobilization. Postoperative management of incomplete lesions is facilitated by providing padded shells if a hospital bed is used. In some instances a frame is preferable. Plaster body casts are preferred for the initial 2 to 4 months in ambulating patients with intact sensation.

Conclusions

A combined orthopedic neurosurgical approach based on new methods is advocated for management of unstable fractures of the truncal spine with (or without) neurological involvement. The ideal setting for such treatment within any specific geographic area would be the designated tertiary care facility. The optimal situation would be establishment of an acute spinal injury unit in conjunction with a rehabilitation unit.

The success of such an approach will depend not only on knowledge and awareness, but also on willingness to achieve an effective interaction among the participants, both orthopedists and neurosurgeons in addition to referring physicians. Our experience to date indicates that there has been a sufficient interaction among participants to assure awareness and acceptance of new methods. The future augers well for management of these difficult problems.

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Each gram contains: Aerosporin[®] (Polymyxin B Sulfate) 5,000 units, bacitracin zinc 400 units, neomycin sulfate 5 mg (equivalent to 3.5 mg neomycin base), special white petrolatum qs; in tubes of 1 oz and 1/2 oz and 1/32 oz (approx.) foil packets.

INDICATIONS: *Therapeutically*, (as an adjunct to systemic therapy when indicated), for topical infections, primary or secondary, due to susceptible organisms, as in: infected burns, skin grafts, surgical incisions, otitis externa; primary pyodermas (impetigo, ecthyma, sycosis vulgaris, paronychia); secondarily infected dermatoses (eczema, herpes, and seborrheic dermatitis); traumatic lesions, inflamed or suppurating as a result of bacterial infection. *Prophylactically*, the

ointment may be used to prevent bacterial contamination in burns, skin grafts, incisions, and other clean lesions. For abrasions, minor cuts and wounds accidentally incurred, its use may prevent the development of infection and permit wound healing.

CONTRAINDICATIONS: This product is contraindicated in those individuals who have shown hypersensitivity to any of its components. Do not use in the eyes or in the external ear canal if the eardrum is perforated.

WARNING: Because of the potential hazard of nephrotoxicity and ototoxicity due to neomycin, care should be exercised when using this product in treating extensive burns, trophic ulceration and other extensive conditions where absorption of neomycin is possible. In burns where more than 20 percent of the body surface is affected, especially if the patient has impaired renal function or is receiving other aminoglycoside antibiotics concurrently, not more than one application a day is recommended.

When using neomycin-containing products to control

secondary infection in the chronic dermatoses, it should be borne in mind that the skin is more liable to become sensitized to many substances, including neomycin. The manifestation of sensitization to neomycin is usually a low grade reddening with swelling, dry scaling and itching; it may be manifest simply as failure to heal. During long-term use of neomycin-containing products, periodic examination for such signs is advisable and the patient should be told to discontinue the product if they are observed. These symptoms regress quickly on withdrawing the medication. Neomycin-containing applications should be avoided for that patient thereafter.

PRECAUTIONS: As with other antibacterial preparations, prolonged use may result in overgrowth of nonsusceptible organisms, including fungi. Appropriate measures should be taken if this occurs.

ADVERSE REACTIONS: Neomycin is a not uncommon cutaneous sensitizer. Articles in the current literature indicate an increase in the prevalence of persons allergic to neomycin. Ototoxicity and nephrotoxicity have been reported (see Warning section).

Complete literature available on request from Professional Services Dept. PML.



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**When painful spasm
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10 mg. capsules, 20 mg. tablets,
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helps control abnormal motor activity
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Demonstrated smooth muscle relaxant activity.

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. . . Bentyl produced definite relaxation in 8 of 10 patients. The sodium chloride produced relaxation in only 3 of 10. No side effects occurred in either group of patients.



Pylorospasm has almost totally blocked passage of barium meal.



Barium meal beginning to pass 10 minutes after intramuscular injection of 20 mg. Bentyl.

"The correlation of spasm relief and drug given was excellent."

*This drug has been classified "probably" effective in treating functional bowel/irritable bowel syndrome.

†See Warnings, Precautions and Adverse Reactions.

See following page for prescribing information.

Reference

King, J.C. and Starkman, N.M.: Evaluation of an antispasmodic. Double-blind evaluation to control gastrointestinal spasms occurring during radiographic examination. A preliminary report. Western Med. 6:385-388, 1964.

Merrell

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Brief Summary

INDICATIONS

Based on a review of this drug by the National Academy of Sciences—National Research Council and/or other information, FDA has classified the following indications as "probably" effective

For the treatment of functional bowel/irritable bowel syndrome (irritable colon, spastic colon, mucous colitis) and acute enterocolitis

THESE FUNCTIONAL DISORDERS ARE OFTEN RELIEVED BY VARYING COMBINATIONS OF SEDATIVE, REASSURANCE, PHYSICIAN INTEREST, AMELIORATION OF ENVIRONMENTAL FACTORS

For use in the treatment of infant colic (syrup)

Final classification of the less-than-effective indications requires further investigation

CONTRAINDICATIONS Obstructive uropathy (for example, bladder neck obstruction due to prostatic hypertrophy), obstructive disease of the gastrointestinal tract (as in achalasia, pyloroduodenal stenosis), paralytic ileus, intestinal atony of the elderly or debilitated patient, unstable cardiovascular status in acute hemorrhage, severe ulcerative colitis, toxic megacolon complicating ulcerative colitis, myasthenia gravis. **WARNINGS** In the presence of a high environmental temperature, heat prostration can occur with drug use (fever and heat stroke due to decreased sweating). Diarrhea may be an early symptom of incomplete intestinal obstruction, especially in patients with ileostomy or colostomy. In this instance treatment with this drug would be inappropriate and possibly harmful. Bentyl may produce drowsiness or blurred vision. In this event, the patient should be warned not to engage in activities requiring mental alertness such as operating a motor vehicle or other machinery or perform hazardous work while taking this drug. **PRECAUTIONS** Although studies have failed to demonstrate adverse effects of dicyclomine hydrochloride in glaucoma or in patients with prostatic hypertrophy, it should be prescribed with caution in patients known to have or suspected of having glaucoma or prostatic hypertrophy. Use with caution in patients with Autonomic neuropathy. Hepatic or renal disease. Ulcerative colitis. Large doses may suppress intestinal motility to the point of producing a paralytic ileus and the use of this drug may precipitate or aggravate the serious complication of toxic megacolon. Hyperthyroidism, coronary heart disease, congestive heart failure, cardiac arrhythmias, and hypertension. Hiatal hernia associated with reflux esophagitis since anticholinergic drugs may aggravate this condition.

Do not rely on the use of the drug in the presence of complication of biliary tract disease. Investigate any tachycardia before giving anticholinergic (atropine-like) drugs since they may increase the heart rate. With overdosage, a curare-like action may occur. **ADVERSE REACTIONS** Anticholinergics/antispasmodics produce certain effects which may be physiologic or toxic depending upon the individual patient's response. The physician must delineate these. Adverse reactions may include xerostomia, urinary hesitancy and retention, blurred vision and tachycardia, palpitations, mydriasis, cycloplegia, increased ocular tension, loss of taste, headache, nervousness, drowsiness, weakness, dizziness, insomnia, nausea, vomiting, impotence, suppression of lactation, constipation, bloated feeling, severe allergic reaction or drug idiosyncrasies including anaphylaxis, urticaria and other dermal manifestations, some degree of mental confusion and/or excitement, especially in elderly persons, and decreased sweating. With the injectable form there may be a temporary sensation of lightheadedness and occasionally local irritation. **DOSEAGE AND ADMINISTRATION** Dosage must be adjusted to individual patient's needs.

Usual Dosage Bentyl 10 mg capsule and syrup *Adults* 1 or 2 capsules or teaspoonfuls syrup three or four times daily. *Children* 1 capsule or teaspoonful syrup three or four times daily. *Infants* ½ teaspoonful syrup three or four times daily. (May be diluted with equal volume of water.) Bentyl 20 mg *Adults* 1 tablet three or four times daily. Bentyl Injection *Adults* 2 ml (20 mg) every four to six hours intramuscularly only. **NOT FOR INTRAVENOUS USE.** **MANAGEMENT OF OVERDOSE** The signs and symptoms of overdose are headache, nausea, vomiting, blurred vision, dilated pupils, hot, dry skin, dizziness, dryness of the mouth, difficulty in swallowing, CNS stimulation. Treatment should consist of gastric lavage, emetics, and activated charcoal. Barbiturates may be used either orally or intramuscularly for sedation but they should not be used if Bentyl with Phenobarbital has been ingested. If indicated, parenteral cholinergic agents such as Urecholine[®] (bethanechol chloride USP) should be used.

Product Information as of October, 1978

Injectable dosage forms manufactured by CONNAUGHT LABORATORIES, INC., Swiftwater, Pennsylvania 18370 or TAYLOR PHARMACAL COMPANY, Decatur, Illinois 62525 for MERRELL-NATIONAL LABORATORIES, Division of Richardson-Merrell Inc., Cincinnati, Ohio 45215, U.S.A.

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Editorial

Charles V. Chapin to Joseph E. Cannon

Two papers of this issue of the *Journal* revive the memory of the late great doctor Charles Value Chapin, for many years the distinguished Superintendent of Health of the City of Providence; these are a profile of Doctor Chapin, and the latest in a series of Chapin orations by eminent contributors to public health spanning a third of a century.

It is fitting that Doctor Joseph E. Cannon, present director of the Rhode Island Department of Health, was chosen as the orator for 1979. He has contributed substantially to the public health movement in Rhode Island, and he is directly in the line of succession following Chapin, since the Providence Health Department along with other local units was incorporated into the state health organization some years ago. An index of his success and the goodwill which he has engendered was the recent naming of the handsome Health Department building near the State Capitol in his honor. Doctor Cannon has run an effective and efficient organization. It is one of the best run of the state's various departments and has been kept reasonably free of politics while operating in an essentially political milieu.

The department has continued to excel in the control of communicable diseases in the long and enviable tradition established by Charles V. Chapin. It has contributed substantially, with the assistance of a thrust by the federal government, to the improvement of the state's hospitals and nursing homes. It succeeded over the years in closing down several substandard proprietary hospitals and more recently a number of inferior nursing homes.

Doctor Cannon in his essay outlines future roles for a modern health department. These involve the expansion of the concept of disease prevention to matters of lifestyle, the environment, the prevention and management of

chronic diseases, the effective delivery of health care, and the encouragement of the social and economic changes necessary to attain these goals.

Doctor Cannon has made a plea for shared responsibility among the health professions "to shape governmental involvement in ways that are beneficial to society as a whole". We are sure that the Rhode Island Medical Society, of which Doctor Cannon has long been a member, stands ready to participate enthusiastically in this joint and worthy endeavor.

One Sentence Essay

The ultimate economy in the use of surgical therapy might be achieved by enlisting faith healers to provide second surgical options.

... C. Rollins Hanlon, MD,
Executive Director, American
College of Surgeons

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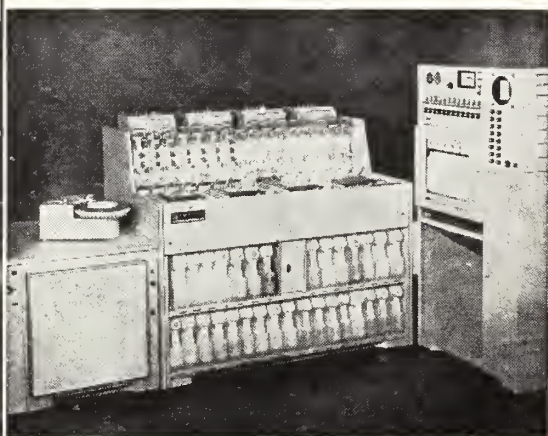
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One Sentence Essay

Probably the major problem in policing the quality of surgical performance is that by and large the policing powers are strongest in the institutions that need them least.

. . . Mark M. Ravitch, MD

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Rhode Island Medical Journal

September, 1979

Vol. 62, No. 9



Clinical Papers

Continuing Medical Education Calendar

September-December 1979

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A character all its own.



Valium (diazepam/Roche) is a benzodiazepine with a character all its own.

Pharmacologically, it is a potent skeletal muscle relaxant and anticonvulsant (in adjunctive use), as well as an antianxiety agent. Pharmacokinetically, only Valium provides active *diazepam* as well as the active metabolites 3-hydroxydiazepam, desmethyldiazepam and oxazepam.

But the individual character of Valium is even more apparent clinically than pharmacokinetically. And far more significant. That's because of the patient response obtained with Valium. A response which brings a calmer frame of mind. A response which has a pronounced effect on the somatic symptoms of anxiety, particularly muscular tension. A response which helps the patient feel more like himself again because of the way Valium reduces the overwhelming symptoms of anxiety and psychic tension.

Another important aspect of the clinical character of Valium is safety. Though drowsiness, ataxia and fatigue are possible, these and more serious side effects are rarely a problem. Of course, as with all CNS-acting drugs, patients taking Valium should be cautioned against driving, operating dangerous machinery or the simultaneous ingestion of alcohol.

Unquestionably, many psychotherapeutic agents, including other benzodiazepines, have antianxiety effects. But one fact remains: you get a certain kind of patient response with Valium. It's a response you want. A response you know. A response you trust as part of your overall management of anxiety and psychic tension.

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Before prescribing, please consult complete product information, a summary of which follows:

Indications: Tension and anxiety states; somatic complaints which are concomitants of emotional factors; psychoneurotic states manifested by tension, anxiety, apprehension, fatigue, depressive symptoms or agitation; symptomatic relief of acute agitation, tremor, delirium tremens and hallucinosis due to acute alcohol withdrawal; adjunctively in skeletal muscle spasm due to reflex spasm to local pathology; spasticity caused by upper motor neuron disorders; athetosis; stiff-man syndrome; convulsive disorders (not for sole therapy).

The effectiveness of Valium (diazepam/Roche) in long-term use, that is, more than 4 months, has not been assessed by systematic clinical studies. The physician should periodically reassess the usefulness of the drug for the individual patient.

Contraindicated: Known hypersensitivity to the drug. Children under 6 months of age. Acute narrow angle glaucoma, may be used in patients with open angle glaucoma who are receiving appropriate therapy.

Warnings: Not of value in psychotic patients. Caution against hazardous occupations requiring complete mental alertness. When used adjunctively in convulsive disorders, possibility of increase in frequency and/or severity of grand mal seizures may require increased dosage of standard anticonvulsant medication; abrupt withdrawal may be associated with temporary increase in frequency and/or severity of seizures. Advise against simultaneous ingestion of alcohol and other CNS depressants. Withdrawal symptoms (similar to those with barbiturates and alcohol) have occurred following abrupt discontinuance (convulsions, tremor, abdominal and muscle cramps, vomiting and sweating). Keep addiction-prone individuals under careful surveillance because of their predisposition to habituation and dependence.

Usage in Pregnancy: Use of minor tranquilizers during first trimester should almost always be avoided because of increased risk of congenital malformations as suggested in several studies. Consider possibility of pregnancy when instituting therapy; advise patients to discuss therapy if they intend to or do become pregnant.

Precautions: If combined with other psychotropics or anticonvulsants, consider carefully pharmacology of agents employed; drugs such as phenothiazines, narcotics, barbiturates, MAO inhibitors and other antidepressants may potentiate its action. Usual precautions indicated in patients severely depressed, or with latent depression, or with suicidal tendencies. Observe usual precautions in impaired renal or hepatic function. Limit dosage to smallest effective amount in elderly and debilitated to preclude ataxia or oversedation.

Side Effects: Drowsiness, confusion, diplopia, hypotension, changes in libido, nausea, fatigue, depression, dysarthria, jaundice, skin rash, ataxia, constipation, headache, incontinence, changes in salivation, slurred speech, tremor, vertigo, urinary retention, blurred vision. Paradoxical reactions such as acute hyperexcited states, anxiety, hallucinations, increased muscle spasticity, insomnia, rage, sleep disturbances, stimulation have been reported; should these occur, discontinue drug. Isolated reports of neutropenia, jaundice; periodic blood counts and liver function tests advisable during long-term therapy.

Dosage: Individualize for maximum beneficial effect. *Adults:* Tension, anxiety and psychoneurotic states, 2 to 10 mg b.i.d. to q.i.d.; alcoholism, 10 mg t.i.d. or q.i.d. in first 24 hours, then 5 mg t.i.d. or q.i.d. as needed; adjunctively in skeletal muscle spasm, 2 to 10 mg t.i.d. or q.i.d.; adjunctively in convulsive disorders, 2 to 10 mg b.i.d. to q.i.d. *Geriatric or debilitated patients:* 2 to 2½ mg, 1 or 2 times daily initially, increasing as needed and tolerated. (See Precautions.) *Children:* 1 to 2½ mg t.i.d. or q.i.d. initially, increasing as needed and tolerated (not for use under 6 months).

Supplied: Valium® (diazepam) Tablets, 2 mg, 5 mg and 10 mg—bottles of 100 and 500, Tel-E-Dose® packages of 100, available in trays of 4 reverse-numbered boxes of 25, and in boxes containing 10 strips of 10; Prescription Paks of 50, available singly and in trays of 10.



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and the

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in cooperation with

The Division of Family Health, Rhode Island Department of Health

DATE: Wednesday, November 28, 1979

PLACE: Garden Room

TIME: 8:15 a.m. to 4:15 p.m.

Biltmore-Plaza Hotel

Providence, Rhode Island

— PROGRAM —

Morning Session: Leo Stern, M.D., Moderator

THE COORDINATED GENETIC SERVICES PROGRAM IN RHODE ISLAND

Dianne Abuelo, M.D.
Director, RIDH Coordinated Genetic Services Program
Assist. Clinical Professor, Pediatrics
Brown University Program in Medicine

THE MALFORMED NEWBORN: PRACTICAL PERSPECTIVES

Lewis B. Holmes, M.D.
Assoc. Professor, Pediatrics
Harvard Medical School
Director, Embryology Laboratory
Shriner-Burns Institute

GENETIC SCREENING

Harvey Levy, M.D.
Assoc. Professor, Neurology
Harvard Medical School
Director Massachusetts Metabolic Disorders Screening Program

THE BIRTH DEFECTS INFORMATION SYSTEM

Marylou Buyse, M.D.
Associate Director, Medical Affairs
Birth Defects Information Center
Assist. Professor, Pediatrics,
Tufts University School of Medicine

Afternoon Session: Howard Hall, M.D., Moderator

PRENATAL DIAGNOSIS: AN OVERVIEW

Maurice J. Mahoney, M.D.
Assoc. Professor, Human Genetics and Pediatrics
Director, Prenatal Genetic Diagnosis Serv.
Yale University School of Medicine

LEGAL IMPLICATIONS OF CLINICAL GENETICS FOR THE PRACTITIONER

Philip Reilly, J.D.
Former Malpractice Defense Attorney
Yale University School of Medicine '81

ULTRASOUND FOR GENETIC DIAGNOSIS IN THE OBSTETRICAL PATIENT

Richard Berkowitz, M.D.
Director, High Risk Obstetrical Service
Assist. Professor, Ob/Gyn & Public Health
Yale University School of Medicine

This program supported in part by grants from Pharmaseal Corp., Glendale, CA, the Department of Medical Education, Women and Infants Hospital of Rhode Island, and the Rhode Island Department of Health. This program is approved for 5 hours of Category I credit for the AMA P.R.A. Nursing CEU's applied for.

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Registration closes 14, November 1979			



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Rhode Island Medical Journal

SEPTEMBER, 1979

(ISSN 0363-7913)

VOL. 62, NO. 9

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CONTINUING MEDICAL EDUCATION CALENDAR

September — December, 1979

prepared by



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and



RHODE ISLAND MEDICAL SOCIETY
Continuing Medical Education Committee

Inquiries on all events listed below should be directed to Mrs. Irene Owens, Brown University Office of Continuing Medical Education, 863-3337

REGULARLY SCHEDULED ACCREDITED PROGRAMS

BUTLER HOSPITAL				
	credit hours			
BROWN UNIVERSITY ACADEMIC GRAND ROUNDS (Lecture Schedule listed below)	(1½)	4th Thursday	10:30 am - 12:00 Noon	Location varies
CLINICAL TEACHING CONFERENCES (September, 1979 - June, 1980)	(1½)	Wednesdays	8:30 am - 10:00 am	Providence Mental Health Ce
WORKSHOPS IN PSYCHOTHERAPY (September, 1979 - July, 1980)	(1½)	3rd Thursday (tentative)	8:30 pm - 10:00 pm	Ruggles Room

BROWN UNIVERSITY ACADEMIC GRAND ROUNDS LECTURE SCHEDULE

SEPTEMBER 27	Rhode Island Hospital	Speaker to be arranged
OCTOBER 25	Butler Hospital	Speaker to be arranged
NOVEMBER 22	Veterans Administration Medical Center	Speaker to be arranged
DECEMBER	NO MEETING	
JANUARY 24	Providence Mental Health Center	Speaker to be arranged
FEBRUARY 28	Bradley Hospital	Speaker to be arranged
MARCH 27	Institute of Mental Health	Speaker to be arranged
APRIL 24	Rhode Island Hospital	Speaker to be arranged
MAY 22	Butler Hospital	Speaker to be arranged

For further information, call 277-5291.

KENT COUNTY MEMORIAL HOSPITAL

MEDICAL EDUCATION PROGRAM (Lecture Schedule listed below)	(1)	*Fridays	11:30 am - 12:30 pm	Doctors Auditorium A
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*No Lecture November 23

MEDICAL EDUCATION PROGRAM LECTURE SCHEDULE

SEPTEMBER 7	"EPIDEMIOLOGY PROBLEMS AND RESOLUTION IN RHODE ISLAND" presented by Gerald Faich, MD, Chief, Division of Epidemiology, RI Department of Health.
SEPTEMBER 14	"PLASTIC RECONSTRUCTIVE SURGERY" presented by Vincent Iacono, MD, Plastic Surgeon, Kent County Memorial Hospital.

SEPTEMBER 21	"RESPIRATORY THERAPY", speaker to be announced.
SEPTEMBER 28	"ARTHRITIS, RHEUMATOID DEGENERATIVE — DIAGNOSIS AND MANAGEMENT" presented by Harold Horwitz, MD, Rheumatologist, Kent County Memorial Hospital, Clinical Instructor in Medicine, Brown University
OCTOBER 5	"USES OF BLOOD AND ITS COMPONENTS PART II" presented by Roland Yankee, MD, Director, Rhode Island Central Blood Bank.
OCTOBER 12	"HYPERTENSION — PROBLEMS, DIAGNOSIS, AND MANAGEMENT" presented by Charles D. Swartz, MD, Professor of Medicine, Hahnemann Medical College and Hospital (Philadelphia Penn.).
OCTOBER 19	"THE JAUNDICED PATIENT" presented by Jerome Walsh, MD, Gastroenterologist, Kent County Memorial Hospital.
OCTOBER 26	"COST EFFECTIVENESS OF ANTIBIOTICS IN SURGERY AND INTERNAL MEDICINE" presented by Richard Brown, MD, Baystate Medical Center (Springfield, Mass.).
NOVEMBER 2	"OUTPATIENT SURGERY — CERTAIN PROCEDURES, HERNIA, ETC.; PATIENT SELECTION DIFFICULTY RESULTS" presented by Richard Dyer, MD, Surgeon, Kent County Memorial Hospital.
NOVEMBER 9	"AS IT HAPPENED — SERIES #4" presented by Michael J. Faella, MD, Neurologist, Kent County Memorial Hospital.
NOVEMBER 16	"CPC — MEDICAL" presented by Joseph Hansagi, MD, Chief of Pathology, Kent County Memorial Hospital.
NOVEMBER 30	"LYMPHOMAS" presented by Agu Suvari, MD, Oncologist, Kent County Memorial Hospital; Clinical Instructor, Brown University.
DECEMBER 7	"PULMONARY EXERCISE AND PHYSIOLOGY" presented by John Urbanetti, MD, Assistant Chief of Pulmonary Medicine, New England Medical Center.
DECEMBER 14	"INTESTINAL BY-PASS SURGERY WITH CASE PRESENTATION" presented by Daniel B. Reardon, MD, Surgeon, Kent County Memorial Hospital.

THE MEMORIAL HOSPITAL

CARDIOLOGY CONFERENCE	(1) Tuesdays	8:30 am - 9:30 am	Richardson I Lecture Room
FAMILY PRACTICE GRAND ROUNDS	(1) Thursdays	12:00 Noon	Richardson I Lecture Room
MEDICAL GRAND ROUNDS	(1) Wednesdays	10:00 am	Richardson I Lecture Room
ORTHOPAEDIC CONFERENCE	(1) Thursdays	8:00 am	Hodgson Conference Room 55
PATHOLOGY CONFERENCE	(1) Thursdays	2:30 pm	Museum Conference Room
PEDIATRIC CONFERENCE	(1) Thursdays	9:00 am	Pediatric Unit
*SURGICAL GRAND ROUNDS	(1) Thursdays	8:00 am	Richardson I Lecture Room
*SURGICAL SERVICE CONFERENCE	(1) Thursdays	4:30 pm	Richardson I Lecture Room

*September through December

THE MIRIAM HOSPITAL

ANESTHESIA — CLINICAL CONFERENCE	(1) 2nd & 4th Thurs.	7:15 am - 8:15 am	Anesthesia Conference Room
ANESTHESIA — COMPLICATIONS CONFERENCE	(1) 1st & 3rd Thurs.	7:15 am - 8:15 am	Anesthesia Conference Room
CARDIOVASCULAR AND THORACIC SURGERY MORBIDITY AND MORTALITY CONFERENCE	(1) 4th Friday	7:30 am	Research Building, Room 10
CARDIOVASCULAR SURGICAL JOURNAL CLUB	(1) 2nd Friday	7:30 am	Research Building, Room 10
MEDICAL GRAND ROUNDS	(1) 2nd & 4th Thurs.	11:00 am	Sopkin Auditorium
MEDICAL/SURGICAL PULMONARY CONFERENCE	(1) 3rd Friday	7:30 am	Research Building, Room 14
VASCULAR SURGICAL CONFERENCE	(1) 1st Friday	7:30 am	Research Building, Room 10
PATHOLOGY CONFERENCES:			
AUTOPSY GROSS REVIEW	Mondays	3:30 pm	Morgue
AUTOPSY MICROSCOPIC CONF.	Tuesdays	11:00 am	Lab Conference Room
HEMATO-PATHOLOGY CONF.	Alternate Thurs.	11:00 am	Lab Conference Room
*INTEGRATED PATHOLOGY RESIDENCY PROGRAM OF BROWN UNIVERSITY	Monthly, Sept-June	4:00 pm	Varies

SURGICAL MICROSCOPIC CONF.	Wednesdays	11:00 am	Lab Conference Room
SURGICAL MORTALITY CONF.	Thursdays	8:00 am	Lab Conference Room
TUMOR BOARD	Alternate Fridays	8:00 am	Lab Conference Room

*Call 274-3700, Ext. 481 for further information.

MORTON HOSPITAL
Taunton, Massachusetts

CONTINUING MEDICAL EDUCATION LECTURES (Lecture Schedule listed below)	(2)	3rd Wednesday	8:00 am to 10:00 am	Conference Room
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CONTINUING MEDICAL EDUCATION LECTURES

SEPTEMBER 19	"COMMON DERMATOSES IN EVERYDAY PRACTICE" presented by Joseph Alper, MD, Assistant Professor of Medicine, Brown University.
OCTOBER 17	"MANAGEMENT OF RENAL CALCULI" presented by David Bernard, MD.
NOVEMBER 21	"DEMENTIA" presented by Robert Flynn, MD.
DECEMBER 19	"HYPERTENSION" presented by James Melby, MD.
JANUARY 16	"TROPICAL DISEASE IN NEW ENGLAND" presented by A. Senft, MD, Professor of Biochemical Pharmacology, Brown University.
FEBRUARY 20	"PSYCHIATRIC EMERGENCIES" (speaker to be announced).
MARCH 19	"HEPATITIS UPDATE" (speaker to be announced).
APRIL 16	"THYROID DISEASE" presented by Lewis Braverman, MD, University of Massachusetts.
MAY 21	To be announced.
JUNE 18	"SPORTS MEDICINE" presented by Arthur Pappas, University of Massachusetts.

NEWPORT HOSPITAL

MEDICAL EDUCATION LECTURES (Lecture Schedule listed below)	(2)	1 Tuesday per Month	7:30 pm - 9:30 pm	Sky Room
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MEDICAL EDUCATION LECTURE SCHEDULE

SEPTEMBER 4	"CLINICAL MANAGEMENT OF STROKE" presented by Martin A. Samuels, MD, Assistant Professor of Neurology, Peter Bent Brigham Hospital, Harvard Medical School, Ju Associate in Medicine (Neurology), Peter Bent Brigham Hospital.
OCTOBER 9	"SELECTING AN ANTIBIOTIC FOR A PATIENT" presented by Thomas F. O'Brien, MD, Associate Professor of Medicine, Peter Bent Brigham Hospital, Harvard Medical School, Physician at Peter Bent Brigham Hospital.
NOVEMBER 6	"HYPERALIMENTATION" presented by George L. Blackburn, MD, Associate Professor of Surgery, Harvard Medical School, Surgeon at the New England Deaconess Hospital (Boston).

NEWPORT NAVAL REGIONAL MEDICAL CENTER

*MEDICAL SPECIAL (Lecture Schedule listed below)	(2)	2nd Wednesday	3:00 pm	Command Conference Room (main building)
*STAFF CLINICAL CONFERENCE	(**)	4th Wednesday	3:00 pm	Command Conference Room

*September through December
**varies

MEDICAL SPECIAL LECTURE SCHEDULE

SEPTEMBER 12	"CARDIAC REHABILITATION" presented by Richard Carleton, MD, Professor of Medicine, Brown University, Chief of Division of Cardiology, The Memorial Hospital.
OCTOBER 10	"IRON DEFICIENCY ANEMIA" presented by Mario Baldini, MD, Professor of Medicine, Brown University, Director of Hematologic Research, The Memorial Hos
NOVEMBER 14	"DISORDERS OF ELECTROLYTE AND/OR ACID-BASE EQUILIBRIUM" presented by Serafino Garella, MD, Associate Professor of Medicine, Brown University, Director of Division of Renal Diseases, R. I. Hospital.

DECEMBER 12

"TOPICS ON THE CURRENT STATUS OF THE THYROID GLAND"

presented by Milton Hamolsky, MD, Professor of Medicine, Brown University, Physician-in-Chief of Department of Medicine, R. I. Hospital.

RHODE ISLAND MEDICAL CENTER GENERAL HOSPITAL

CLINICAL PATHOLOGICAL CONFERENCE (Lecture Schedule listed below)	(1)	2nd Thursday	10:30 am	Lab Classroom, Mathias Building
GERIATRIC CARE LECTURES (Lecture Schedule listed below)	(1)	Varies	8:45 am	Lab Classroom, Mathias Building
*MEDICAL WARD ROUNDS	(**)	Ea. Thurs. & Fri.	Time varies	Location varies
***PROBLEM CASE PRESENTATION (GRAND ROUNDS)	(1)	Tuesdays	10:30 am	LP Conference Room

*For further information, contact Dr. Hassid, 464-3493.

**One Category I credit per hour

***Additional comments by Irving Beck, MD

CLINICAL PATHOLOGICAL CONFERENCE LECTURE SCHEDULE

SEPTEMBER 13	Presentation and Discussion of a Case by a Staff Physician. Moderator: S. Hassid, MD
OCTOBER 11	Presentation and Discussion of a Neurological Case, Moderator: S. Pogacar, MD, Neuropathologist, General Hospital, Clinical Assistant Professor of Neuropathology, Brown University.
NOVEMBER 8	Moderator: S. Hassid, MD
GERIATRIC CARE LECTURE SERIES	
SEPTEMBER 10	"SURGERY IN OLD AGE" presented by A. Abadier, MD, Chief of Surgery, General Hospital; and M. Issa, MD, from the General Hospital, moderated by Dr. Hassid.
SEPTEMBER 24	"ANESTHESIA IN OLD AGE" presented by Stephen Fortunato, MD, moderated by Dr. Hassid.
OCTOBER 16	"DENTAL CARE IN THE AGED" presented by Drs. Berkovitz and Kathleen Coyne.
OCTOBER 22	"GERIATRIC CARE AND THE DAY HOSPITAL" presented by Dr. Johannes Virks, Chief of Medicine, RIMC General Hospital, Instructor of Medicine, Brown University, moderated by Dr. Hassid.
NOVEMBER 12	"ELDERLY IN SOCIETY" presented by Frederick Young, MSSW, ACSW.
NOVEMBER 16	"PREVENTIVE MEDICINE IN OLD AGE" presented by H.A. Shustari, MD and R. Mate, MD.
DECEMBER 10	"PSYCHOLOGY OF AGING" presented by Fredic Friedman, PhD.

RHODE ISLAND HOSPITAL

ALLERGY DIVISION CONFERENCE	(1)	Thursdays	8:15 am	APC, 6th Floor Conference Room
CARDIOLOGY NOON CONFERENCE	(1)	1st & 3rd Fridays (2nd & 3rd in Nov.)	Noon	APC, Room 155
CARDIO-VASCULAR THORACIC SURGERY CONFERENCE	(1)	Wednesdays	4:30 pm	APC, Room 155
MEDICINE GRAND ROUNDS	(1)	Wednesdays	Noon	George Auditorium
MEDICINE — SUBSPECIALTY CONFERENCES	(1)	Ea. Mon, Tues, Thurs, & Fri	Noon	APC, Room 155
MEDICINE - VISITING LECTURERS	(1)	Saturdays	10:15 am	George Auditorium
ORTHOPAEDIC GRAND ROUNDS	(*)	Fridays	8:00 am - 10:00 am	George Auditorium
PEDIATRIC CARDIAC CATHETERIZATION CONFERENCE	(*)	Tuesdays	4:00 pm - 6:00 pm	APC, 8th Floor
PEDIATRIC GRAND ROUNDS	(1)	Fridays	10:30 am - 11:30 am	George Auditorium
SURGICAL GRAND ROUNDS	(*)	Wednesdays	7:30 am	George Auditorium

*One Category 1 credit per hour

ROGER WILLIAMS GENERAL HOSPITAL

CARDIOLOGY HOUSESTAFF CONFERENCES	(1)	1st Monday	12:30 pm	Center II Conference Room
CLINICAL PHARMACOLOGY HOUSESTAFF CONFERENCES	(1)	3rd Thursday	12:30 - 1:30 pm	Center II Conference Room
CLINICOPATHOLOGIC CONFERENCE (CPC)	(1)	3rd Thursday	11:00 am - 12:00 Noon	Kay Auditorium
ENDOCRINOLOGY HOUSESTAFF CONFERENCES	(1)	3rd Wednesday	12:30 pm	Center II Conference Room
GASTROENTEROLOGY HOUSESTAFF CONFERENCES (Lecture Schedule listed below)	(1)	2 Fridays per Month	12:30 pm	Center II Conference Room
HEMATOLOGY/ONCOLOGY HOUSESTAFF CONFERENCES (Lecture Schedule listed below)	(1)	Fridays	12:30 pm - 1:30 pm	Center II Conference Room
INFECTIOUS DISEASE HOUSESTAFF CONFERENCES	(1)	1st Tuesday	12:30 pm	Center II Conference Room
MEDICAL GRAND ROUNDS (Lecture Schedule listed below)	(1)	Tuesdays	11:00 am - 12:00 Noon	Kay Auditorium
NEPHROLOGY HOUSESTAFF CONFERENCES	(1)	2nd & 4th Tues.	12:30 pm	Center II Conference Room
PEDIATRIC TEACHING ROUNDS (Lecture Schedule listed below)	(1½)	1 Friday per Month	10:30 am - 12:00 Noon	Kay Auditorium
PHYSICIAN-IN-CHIEF'S ROUNDS	(1)	Thursdays	11:00 am	Kay Auditorium
PULMONARY HOUSESTAFF CONFERENCES	(1)	4th Monday	12:30 pm	Center II Conference Room
RHEUMATOLOGY GRAND ROUNDS	(1½)	Fridays	8:00 am - 9:30 am	*RWGH, VAMC, or RIH
UROLOGY ROUNDS	(1)	Fridays	8:30 am	*VAMC or RWGH
WEDNESDAY SURGICAL CONFERENCES	(1)	Wednesdays	7:30 am	Surgical Conference Room (4th Floor, Prior Hall)

*varies

GASTROENTEROLOGY HOUSESTAFF CONFERENCES LECTURE SCHEDULE

SEPTEMBER 7	"PANCREATIC DISEASE" presented by Edward Feller, MD
SEPTEMBER 14	"GALLBLADDER DISEASE"
OCTOBER 5	"GI INFECTIONS" presented by Thomas Flannery, MD
OCTOBER 19	"INFLAMMATORY BOWEL DISEASE" presented by Herbert Rakatansky, MD
NOVEMBER 2	"HEPATITIS" presented by Nicholas Califano, MD
NOVEMBER 16	"DIARRHEA" presented by Michael Turner, MD
DECEMBER 14	Presentation by Richard McDermott, MD
DECEMBER 28	Presentation by Edward Feller, MD

HEMATOLOGY/ONCOLOGY HOUSESTAFF CONFERENCES LECTURE SERIES

SEPTEMBER 21	"EVOLUTION OF MALIGNANT LYMPHOMAS" presented by Israel Diamond, MD.
OCTOBER 12	"MANAGEMENT OF NON-HODGKINS LYMPHOMAS" presented by Michael C. Wiemann, MD.
NOVEMBER 9	"MANAGEMENT OF HODGKIN'S DISEASE", presented by Charles H. Doolittle, III, MD.
NOVEMBER 30	"BREAST CANCER", presented by Francis J. Cummings, MD.
DECEMBER 21	"TESTICULAR NEOPLASMS", presented by Ellen Spremulli, MD.
JANUARY 4	"ASSESSMENT OF BLEEDING DISORDERS", presented by Angelina Carvalho, MD
JANUARY 18	"LUNG CANCER", presented by Michael C. Wiemann, MD
FEBRUARY 1	"HEMOLYTIC ANEMIAS", presented by Bruce T. Lyman, MD
FEBRUARY 15	"MYELOMA", presented by Francis J. Cummings, MD
MARCH 14	"COLO-RECTAL CARCINOMA", presented by Charles H. Doolittle, III, MD.
APRIL 11	"ACUTE LEUKEMIAS", presented by Michael C. Wiemann, MD.
APRIL 25	"CHRONIC LEUKEMIAS", presented by Bruce T. Lyman, MD.
MAY 9	"OVARIAN CARCINOMA", presented by Ellen Spremulli, MD.
MAY 30	"MYELOPROLIFERATIVE DISORDERS", presented by Angelina Carvalho, MD.
JUNE 6	"PLASMA CELL DYSCRASIAS", presented by Zbigniew Zawadzki, MD.

MEDICAL GRAND ROUNDS LECTURE SCHEDULE

SEPTEMBER 4	"PAROXYSMAL NOCTURNAL HEMOGLOBINURIA" presented by James P. Crowley, MD, Department of Hematology, RI Hospital.
SEPTEMBER 18	"NEUROLOGIC FINDINGS IN VIOLENT DELINQUENTS" presented by Jonathan Pincus, MD, Professor of Neurology, Yale University School of Medicine.
SEPTEMBER 25	Presentation by Gerald Faich, MD, Chief, Div. of Epidemiology, RI Department of Health.
OCTOBER 2	"MULTIPLE SCLEROSIS" presented by H. Richard Tyler, MD, Department of Neurology, Peter Bent Brigham Hospital.
OCTOBER 9	To be announced.
OCTOBER 16	"BIOCHEMICAL TUMOR MARKERS" presented by John Savory, PhD, Professor of Pathology, University of Virginia, Director of Clinical Chemistry & Toxicology, University of Virginia Medical Center.
OCTOBER 30	To be announced.
NOVEMBER 6	To be announced.
NOVEMBER 13	"EVALUATION & MANAGEMENT OF HYPERTENSION" presented by J. Caulie Gunnels, MD, Professor of Medicine, Duke University Medical Center.
NOVEMBER 20	To be announced.
NOVEMBER 27	"NEW APPROACHES TO THE TREATMENT OF DIABETES" Philip Felig, MD, Vice Chairman, Dept. of Medicine, Chief, Section of Endocrinology, Professor of Medicine, Yale University School of Medicine.

PEDIATRIC TEACHING ROUNDS LECTURE SCHEDULE

SEPTEMBER 14	"CURRENT ADVANCES IN PEDIATRICS" presented by Frank A. Oski, MD, Professor and Chairman of Pediatrics, State University Hospital, Upstate Medical Center (Syracuse, NY).
OCTOBER 19	"RADIOLOGIC ASPECTS OF SPORTS INJURIES" presented by John F. O'Connor, MD, Assistant Dean of Admissions, Professor of Pediatrics and Radiology, Boston University School of Medicine, Director of Pediatric Radiology, Boston City Hospital.
DECEMBER 14	"CONGENITAL HYPOTHYROIDISM — A NEW ERA" presented by Robert Z. Klein, MD, Professor of Pediatrics, Dartmouth University, Clinical Professor of Pediatrics, Tufts University, Coordinator of New England Regional Screening Program, State Laboratory Institute (Jamaica Plain, Mass.); Marvin L. Mitchell, MD, Associate Professor of Medicine, Tufts University, Director of Hypothyroidism Screening Laboratory, State Laboratory Institute (Jamaica Plain, Mass.).
JANUARY 11	"EVALUATION AND MANAGEMENT OF INFANTS WITH 'NEAR-MISS'" presented by Daniel C. Shannon, MD, Associate Professor of Pediatrics, Harvard Medical School, Director of Pediatric Pulmonary Research, Massachusetts General Hospital.
FEBRUARY 15	"NEUROLOGIC APPROACH TO BEHAVIOR DISORDERS OF CHILDHOOD" presented by G. Robert DeLong, MD, Assistant Professor of Neurology, Harvard Medical School, Chief of Pediatric Neurology, Massachusetts General Hospital.
MARCH 14	"MENINGOCOCCAL DISEASE AND PREVENTION — UPDATE" presented by Martha L. LePow, MD, Professor of Pediatrics, Director of Infectious Disease Services, Albany Medical College.
APRIL 11	"'T. & A.' — 1980" presented by Charles D. Bluestone, MD, Director of Otolaryngology, Professor of Otolaryngology, University of Pittsburgh School of Medicine.
MAY 16	"DIAGNOSTIC APPROACH TO HEAD INJURIES IN CHILDREN" presented by John Shillito, Jr., MD, Associate Professor of Surgery, Harvard Medical School, Senior Associate in Pediatric Neurosurgery, Children's Hospital Medical Center (Boston).

ST. ANNE'S HOSPITAL

Fall River, Massachusetts

INFECTION CONTROL CONFERENCE (Lecture Schedule listed below)	(2)	2nd Wednesday	8:30 am - 10:30 am	Clemence Hall
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INFECTION CONTROL CONFERENCE LECTURE SCHEDULE

SEPTEMBER 12	"UPPER GI PROBLEMS" presented by Marshall Kaplan, MD, Chief of Gastroenterology, Tufts New England Medical Center.
NOVEMBER 14	"INTRA-ABDOMINAL INFECTIONS" presented by Dr. Swartz, Massachusetts General Hospital.

ST. JOSEPH'S HOSPITAL

*CHILDREN AND YOUTH SERIES (Lecture Schedule listed below)	(1)	2nd Tuesday	8:00 pm	Stang Classroom
FAMILY PRACTICE PRESENTATIONS (Lecture Schedule listed below)	(1)	1st Tuesday	9:00 am	OLP - Stang Classroom

*September through December

CHILDREN AND YOUTH SERIES LECTURE SCHEDULE

SEPTEMBER 11	"KETOACIDOSIS" presented by Betty Burkhardt Mathieu, MD.
OCTOBER 9	"ADVANCES IN ENDOCRINOLOGY" presented by Jay M. Orson, MD.
NOVEMBER 13	"NUTRITION IN THE PREMATURE, NEWBORN, AND PRE-SCHOOL CHILD" presented by John P. Grady, MD; Mary Schanler, RD.
DECEMBER 11	"PEDIATRIC COMPUTERIZED TOMOGRAPHY" presented by Richard E. Land, MD.

FAMILY PRACTICE PRESENTATIONS LECTURE SCHEDULE

SEPTEMBER 4	"GENETICS — DOMINANT AND RECESSIVE, AND EFFECTS OF RADIATION" presented by Neil Gonsalves, M.D.
OCTOBER 2	"RECENT INTERPRETATIONS OF THYROID STUDIES — UPDATING THE THYROID GLAND STATISTICS" presented by Milton Hamolsky, MD.
NOVEMBER 6	"SKINNY NEEDLE, DIRECT AND INDIRECT PANCREATIC BIOPSY, E.R.C.P., AND LAPAROSCOPY IN THE DIFFERENTIAL DIAGNOSIS OF HEPATIC AND PANCREATICO-BILIARY DISEASE" presented by Raymond Moffitt, MD.
DECEMBER 3	"HEART SOUNDS AND EJECTION MURMURS" presented by Bharat Vibhaker, MD.

SOUTH COUNTY HOSPITAL

DEPARTMENTAL MEDICAL EDUCATION CONFERENCE	(2)	3rd Monday	7:30 am - 9:30 am	Bacon House Library
*MEDICAL EDUCATION PROGRAM (Lecture Schedule listed below)	(2)	1st Friday	10:00 am - 12:00 Noon	Bacon House Library

*September through December

MEDICAL EDUCATION PROGRAM LECTURE SCHEDULE

SEPTEMBER 7	"SYPHILIS DIAGNOSIS UPDATE: LOVE IS BLIND, BUT SYPHILIS HAS TWO EYES" presented by Fredy P. Roland, MD, Associate Professor of Medicine, Brown University.
OCTOBER 5	"CLINICAL IMMUNOLOGY FOR NON-IMMUNOLOGISTS" presented by Zbigniew A. Zawadzki, MD, Associate Professor of Medicine.
NOVEMBER 2	"PURPURA" presented by Mario G. Baldini, MD, Professor of Medicine, Chairman, Section of Medicine, Brown University.
DECEMBER 7	"SKINNY NEEDLE, E.R.C.P., AND LAPAROSCOPY IN THE DIAGNOSIS AND MANAGEMENT OF HEPATIC AND PANCREATICO-BILIARY TRACT DISEASE" presented by Raymond E. Moffitt, MD; Paul W. Roderick, MD.

WOMEN AND INFANTS HOSPITAL

OB/GYN GRAND ROUNDS	*(1)	Wednesdays	9:00 am	Auditorium
PERINATAL MANAGEMENT CONFERENCE	*(1)	Wednesdays	7:45 am	Auditorium

*One credit, Category II. When lecture is presented by visiting professors, Category I.

WOONSOCKET AND FOGARTY HOSPITALS

JOINT MEDICAL-SURGICAL CONFERENCES (Lecture Schedule listed below)	(1)	1 Monday per Month	11:30 am	*Location varies
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*September and November — Fogarty Hospital Auditorium;

*October and December — Woonsocket Hospital, Christiansen Hall

JOINT MEDICAL-SURGICAL CONFERENCES LECTURE SCHEDULE

SEPTEMBER 17	"RENAL DIALYSIS" presented by Joseph Chazan, MD.
OCTOBER 15	"PULMONARY THROMBOEMBOLISM: DIAGNOSIS AND NEW THERAPY" presented by Arthur A. Sasahara, MD, Professor of Medicine, Harvard Medical School.
NOVEMBER 12	"RECENT DEVELOPMENTS IN THE DIAGNOSIS AND TREATMENT OF DISEASES OF THE THYROID GLAND" presented by Milton W. Hamolsky, MD.
DECEMBER 17	"OFFICE MANAGEMENT OF DEPRESSION" presented by Cyrus Wolfman, MD, Associate Professor of Clinical Psychiatry, New York University School of Medicine, Clinical Director of the Department of Psychiatry at the Brookdale Hospital Medical Center (Brooklyn, NY).

COURSES AND SYMPOSIA

SEPTEMBER 20 – OCTOBER 18, 1979 (weekly)

REFRESHER COURSE IN RADIOLOGICAL SCIENCE FOR PHYSICIANS AND DENTISTS

presented by the Brown University Section on Radiation Medicine, will be held in the Department of Radiation Oncology Conference Room at R I Hospital, on Thursdays from 7:00 - 9:00 pm. 10 hours credit. Registration fee \$50.00.

Course schedule follows:

- SEPTEMBER 20 "REVIEW OF RADIOLOGICAL PHYSICS FOR DIAGNOSTIC RADIOLOGY, NUCLEAR MEDICINE, AND DENTISTRY"
presented by Colin Orton, PhD, Associate Professor of Radiation Medicine; Douglas Shearer, PhD, Assistant Professor of Radiation Medicine; Lawrence Reinstein, PhD, Assistant Professor of Radiation Medicine.
- SEPTEMBER 27 "REVIEW OF THE BIOLOGICAL EFFECTS OF LOW DOSE RADIATION"
presented by Arvin S. Glicksman, MD, Professor of Medical Science, Chairman, Section on Radiation Medicine; John Leith, PhD, Associate Professor of Radiation Medicine.
- OCTOBER 4 "QUALITY CONTROL IN DIAGNOSTIC RADIOLOGY, PARTICULARLY IN OFFICE PRACTICE"
presented by Colin Orton, PhD; Douglas Shearer, PhD.
- OCTOBER 11 "RADIATION REGULATIONS IN THE STATE OF RHODE ISLAND AS THEY APPLY TO PHYSICIANS AND DENTISTS"
presented by James Hickey, Chief, R I Division of Occupational Health and Radiation Control;
Charles McMahon, Supervisor of Radiation, R I Division of Occupational Health and Radiation Control;
Robert Watkins, Supervisor of Radiation, R I Division of Occupational Health and Radiation Control.
- OCTOBER 18 "ENVIRONMENTAL PERSPECTIVES OF RADIATION ON POPULATIONS"
presented by Jacob Fabrikant, MD, PhD, member of the President's Commission on 3-Mile Island.

OCTOBER 10 AND 11, 1979

CRITICAL TRANSITION: CHILDHOOD TO ADOLESCENCE

presented by Bradley Hospital and Brown University at the Biltmore Plaza in Providence from 9:00 am to 5:00 pm each day. 7 hours credit. Registration fee \$25.00 for one day; \$40.00 for both days. Symposium lecturers will include: Mary Caldarone, MD, MPH, President, Information and Education Council of the US, speaking on sexuality; Henry Coppolillo, MD, Director, Division of Child Psychiatry, University of Colorado Medical Center, speaking on hypochondriasis; Dane Prugh, MD, Director of Child Psychiatry Training, University of Colorado Medical Center, speaking on psychosomatic disorders; Derek Miller, MD, Chief of Adolescent Psychiatry, Northwestern University School of Medicine, speaking on depression; with panels of local and regional professionals following each of the talks with discussion and thoughts on various areas highlighted by the keynoters.

OCTOBER 15 – DECEMBER 17, 1979 (weekly)

SELECTED TOPICS IN INTERNAL MEDICINE to be held in Richardson 1 Lecture Room, The Memorial Hospital, Mondays at 7:30 pm. 1 credit per session.

Call Mrs. Libby Bray, 722-6000, Ext. 2246 for registration fee. Speaker schedule follows:

- OCTOBER 15 "NON-INVASIVE & NON-RADIOLOGIC DIAGNOSIS OF GASTROINTESTINAL DISEASE"
presented by Richard Norton, MD, New England Medical Center Hospital, Associate Professor of Medicine, Tufts University School of Medicine.
- OCTOBER 22 "ADVANCES IN THE MANAGEMENT OF PEPTIC ULCER DISEASE"
presented by Andrew Plaut, MD, New England Medical Center Hospital, Professor of Medicine, Tufts University School of Medicine.
- OCTOBER 29 "DIAGNOSIS & TREATMENT OF HEPATITIS"
presented by Marshall Kaplan, MD, Chief of Gastroenterology Division, New England Medical Center Hospital, Professor of Medicine, Tufts University School of Medicine.
- NOVEMBER 5 "PATHOPHYSIOLOGY OF DIARRHEA & APPROACH TO TREATMENT"
presented by Mark Donowitz, MD, New England Medical Center Hospital, Assistant Professor of Medicine, Tufts University School of Medicine.
- NOVEMBER 19 "MANAGEMENT OF CONGESTIVE HEART FAILURE"
presented by Herbert Levine, MD, Chief Cardiology Service, New England Medical Center Hospital, Professor of Medicine, Tufts University School of Medicine.
- NOVEMBER 26 "INDICATIONS FOR SURGERY IN CORONARY ARTERY DISEASE"
presented by John Banas, Jr., MD, Chief of Cardiology, St. Vincent's Medical Center (Bridgeport, CT.), Associate Professor of Medicine, Yale University.

- DECEMBER 3 "MANAGEMENT OF VALVULAR HEART DISEASE"
presented by Modestino Criscitiello, MD, Division of Cardiology, New England Medical Center Hospital, Professor of Medicine, Tufts University School of Medicine.
- DECEMBER 10 "MANAGEMENT OF PERIPHERAL VASCULAR DISEASE"
presented by Allan Callow, MD, PhD, Vice Chairman, Department of Surgery, Chief of General and Vascular Service, New England Medical Center Hospital.
- DECEMBER 17 "CARDIAC ARRYTHMIAS"
presented by Shapur Naimi, MD, Director, Intensive Cardiac Care Unit, New England Medical Center Hospital, Associate Professor of Medicine, Tufts University School of Medicine.

OCTOBER 22 — OCTOBER 26, 1979

- UPDATE IN INTERNAL MEDICINE
presented by the Department of Medicine, Roger Williams General Hospital, to be held in Kay Auditorium at Roger Williams General Hospital at 11:00 am each day. 1 credit per session. No registration fee. Speaker schedule follows:
- OCTOBER 22 "RECENT ADVANCES IN ECHOCARDIOGRAPHY"
presented by John O. Pastore, MD, Director, Noninvasive Cardiac Laboratory, St. Elizabeth's Hospital of Boston, Assistant Prof. of Medicine, Tufts University
 - OCTOBER 23 "NEW APPROACHES IN THE DIAGNOSIS & MANAGEMENT OF ITP"
presented by Thomas P. Duffy, MD, Hematology Section, Yale University School of Medicine.
 - OCTOBER 24 "UPDATE ON CEPHALOSPORINS"
presented by Richard Quintiliani, MD, Division of Infectious Diseases, Hartford Hospital
 - OCTOBER 25 To be announced
 - OCTOBER 26 To be announced

NOVEMBER 7, 1979

THE SIXTEENTH ANNUAL MAURICE N. KAY PEDIATRIC SYMPOSIUM, entitled "ADVANCES IN PEDIATRICS", will be presented by the Department of Pediatrics, Roger Williams General Hospital, Providence, RI. This Symposium will be held at the Marriott Hotel, Providence, RI, Wednesday, November 7, 1979, from 9:00 a.m. to 5:00 p.m. The moderator of the program will be Dr. Leo S. Berman, Professor and Chairman of Pediatrics, Section of Reproductive and Developmental Medicine, Brown University. Guest speakers will include: Maria I. New, MD, New York Hospital-Cornell Medical Center, Leon E. Rosenberg, MD, Yale University School of Medicine, Milton S. Stahlman, MD, Vanderbilt University School of Medicine. Ralph Wedgewood, MD, University of Washington School of Medicine. 4½ 1 credit. Registration fee \$30.00 (includes luncheon).

NOVEMBER 17, 1979

MORBID OBESITY
presented by the Brown University Section on Surgery and the Rhode Island Chapter of the American College of Surgeons in George Auditorium, Hospital, from 9:00 am to 12 noon. 3 hours credit. Registration fee \$10.00.

NOVEMBER 28, 1979

- CLINICAL GENETICS FOR THE PRACTITIONER
presented by Women and Infants Hospital, Rhode Island Hospital, Genetic Counseling Centers of Rhode Island and the Rhode Island Department of Health at the Biltmore Plaza in Providence at 8:15 am. 5 hours credit. Registration fee \$20.00 Symposium schedule follows:
- MORNING SESSION:
 - "THE COORDINATED GENETIC SERVICES PROGRAM" presented by Dianne N. Abuelo, MD
 - "CONGENITAL MALFORMATIONS" presented by Lewis B. Holmes, MD
 - "GENETIC SCREENING" presented by Harvey Levy, MD
 - "PRENATAL DIAGNOSIS: AN OVERVIEW" presented by M. J. Mahoney, MD
 - AFTERNOON SESSION:
 - "THE USE OF ULTRASOUND FOR GENETIC DIAGNOSIS IN THE OBSTETRICAL PATIENT", presented by Richard Berkowitz, MD.
 - "THE BIRTH DEFECTS INFORMATION SYSTEM" presented by Marylou Buyse, MD.
 - "THE LEGAL IMPLICATIONS OF CLINICAL GENETICS FOR THE PRACTITIONER" presented by Philip Reilly, MD.
 - Moderators:
 - Leo Stern, MD; Howard Hall, MD

DATES TO REMEMBER — MEETINGS TO ATTEND

SEPTEMBER 26, 1979

"MEDICAL AND CLINICAL ISSUES IN THE TREATMENT OF HYPERTENSION"

sponsored by the RI Affiliate, American Heart Association and Brown University. Biltmore Plaza, Providence, RI. 2:00 pm - 6:00 pm. 3 credit hours. Lecturers include: Joseph A. Chazan, MD, FACP, Medical Director, Artificial Kidney Center of RI and Clinical Associate Professor of Medicine, Brown University; Thomas G. Pickering, MD, Associate Professor, New York Hospital-Cornell Medical Center; Richard Solomon, MD, Chief, Renal Section, VA Medical Center, Roger Williams General Hospital, Womens and Infants Hospital, Assistant Professor of Medicine, Brown University. Moderator: Barbara H. Roberts, MD, Clinical Assistant Professor of Medicine, Brown University.

SEPTEMBER 27, 1979

"EVALUATION OF RESPIRATORY DISTRESS IN THE NEWBORN IN THE COMMUNITY HOSPITAL

New Techniques in Managing the Respiratory Distress Syndrome in the Referral Hospital — Management of Apnea" presented by William O. MD, Pediatrician-in-Chief, Women and Infants Hospital, Professor of Pediatrics, Brown University. Command Conference Room, Naval Regional Medical Center, Newport, RI. 11:00 am.

OCTOBER 16, 1979

M. LEO PRANIKOFF MEMORIAL LECTURE, "Medical Aspects of Orbital Disease" presented by Robert L. Bahr, MD, Clinical Assistant Professor of Surgery (Ophthalmology). Brown University. The Miriam Hospital. 2 credit hours.

OCTOBER 17, 1979

"ANXIETY" presented by Shervert H. Frazier, MD, McLean Hospital, Harvard University. 8:30 am to 5:00 pm. White's Restaurant, State Road, Westport, Mass. \$10.00 (lunch included). Call (617) 674-5741, Ext. 258 for further information.

OCTOBER 18, 19 & 20, 1979

"SURGERY OF THE SPINE IN ANKYLOSING SPONDYLITIS" presented by Edward H. Simmons, MD, sponsored by Department of Orthopaedic Surgery, RI Hospital. October 18, 9:30 am to 12:30 pm and October 19, 9:00 am — noon, presentation of problem cases. October 20, 9:00 am — noon, lectures. George Auditorium, RI Hospital.

NOVEMBER 2, 1979

"INFECTIOUS DISEASES: NEW THREATS AND NEW THERAPIES" sponsored by the Brown Medical Association. Lectures by G. Fauci, MD, Clinical Assistant Professor of Medicine, Brown University, Associate Director, Preventive Medicine, RI Department of Health; A. Medeiros, MD, Associate Professor of Medicine, Brown University; G. Peter, MD, Associate Professor of Pediatrics, Brown University. Moderator: Robert Petersdorf, MD. 2½ credit hours. Call L. Flowers, 863-3291 for further information.

DECEMBER 1, 1979

"A PATHOLOGICAL RECONSTRUCTION OF THE CANARY ISLAND AIRPLANE DISASTER" sponsored by the Armed Forces Institute of Pathology and Brown University. RI Department of Health Auditorium, 75 Davis Street, Providence, RI. 9:00 am to noon. 3 credit hours.

MEETINGS BEING PLANNED

LEGAL ISSUES IN PSYCHIATRY sponsored by RI District Branch, APA, Butler Hospital, Brown University. 8:00 - 10:00 pm in September, December, January, and April at various Rhode Island hospitals on rotating basis. Call T. Scaramella, MD, 274-3343 for further information.

PEDIATRIC PATHOLOGY CLUB FALL MEETING sponsored by the Pediatric Pathology Club, RI Hospital, Women & Infants Hospital, Brown University. October 12, 1979, at George Auditorium, RI Hospital. October 13, 1979, Women & Infants Hospital Auditorium. Call J. O'Shea, MD, 277-5608 for further information.

SYMPOSIUM ON FAMILY PRACTICE sponsored by RI Chapter AAFP and Memorial Hospital Family Care Center on November 14, 1979. Call N. Sonkin, MD, 725-0192 for further information.

WESTERLY HOSPITAL SYMPOSIA, "Medical Implications of Smoking" on October 20, 1979, from 8:30 am to 12:30 pm and "Alcoholism and Psychiatry" on November 17, 1979. Nurses Library, Westerly Hospital. 4 credit hours per symposium. Call N. Lawton, 596-4961, Ext. 25 for further information.

ZAMBARANO MONTHLY EDUCATIONAL SEMINARS. Monthly, September, 1979 — June, 1980. Lectures by Brown University faculty. Course Director, Don B. Singer, MD, Professor of Pathology and Laboratory Medicine, Brown University. Call I. Owens, 863-3337 for further information.

THE SIXTEENTH ANNUAL MAURICE N. KAY PEDIATRIC SYMPOSIUM

Wednesday, November 7, 1979

9:00 a.m. to 5:00 p.m.

“ADVANCES IN PEDIATRICS”

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MARIA I. NEW, M.D.

Professor of Pediatrics

Harold and Percy Uris Professor of Pediatric Endocrinology and Metabolism

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“Congenital Adrenal Hyperplasia — New Developments”

LEON E. ROSENBERG, M.D.

Professor of Human Genetics, Pediatrics and Medicine

Chairman, Department of Human Genetics

Yale University School of Medicine

333 Cedar Street, New Haven, CT 06510

“Phenylketonuria: New Questions About an Old Disease”

MILDRED STAHLMAN, M.D.

Professor of Pediatrics

Vanderbilt University School of Medicine

Nashville, TN 37203

“Long Term Follow-Up of Infants with Hyaline Membrane Disease”

RALPH WEDGWOOD, M.D.

Professor of Pediatrics

University of Washington School of Medicine

Department of Pediatrics RD 20, Seattle, WA 98195

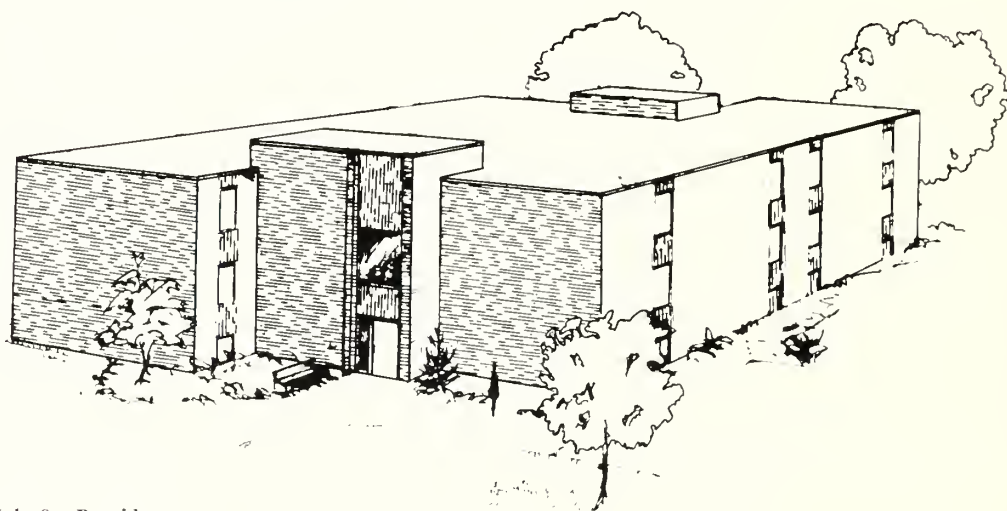
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MESSAGE FROM THE DEAN

The State of Rhode Island Internships, 1979-80.

Brown University's medical faculty bear a dual educational responsibility, fulfilling roles both at the medical school level as well as in the supervision of interns and residents completing their graduate medical education in those hospital-based programs affiliated with Brown.

At yearly intervals, this column is used to describe the geographic and professional background of the interns newly recruited by the hospitals of this state and to compare these data with information from prior years. Virtually all of the 77 men and 20 women selected for the internships in medicine, family medicine, pediatrics, surgery, and obstetrics and gynecology were identified through the national Intern and Resident Matching Program, concluded in March of each year, a program which permits both applicants and institutions to rank their choices in such a manner that the final outcome will reflect appointment decisions which are mutually acceptable to the prospective intern as well as the considered hospital. The quality of the recruited interns, therefore, provides us with some measure as to the comparative desirability of our local hospitals, as training institutions, from the vantage point of the graduates of the other medical schools of the United States.

First year graduate medical education training programs (internships) are maintained at five of the eight hospitals affiliated with Brown University. However, all of the eight hospitals play an active role in some form of residency training program in the subsequent years of medical education. The following represent the approved patient care training programs

in these hospitals: Family Medicine (Director: Louis Hochheiser, MD), Internal Medicine (Directors: Paul Calabresi, MD, Milton Hamolsky, MD, Herbert Lichtman, MD), Pediatrics (Director: Leo Stern, MD), Obstetrics & Gynecology (Acting Director: Sumner Raphael, MD), and Surgery (Director: Donald Gann, MD).

Table 1 summarizes the medical schools attended by the state of Rhode Island interns for the years 1977-80, while Table 2 compares the geographic sites of these schools with comparable data derived from the two preceding internship groups. In the present cadre, 46 different U.S. campuses are listed, including 8 of the 9 New England medical schools. Those U.S. medical schools conventionally regarded as more prestigious are also well represented in this roster. The geographic base of our house staff (in terms of medical education) continues to be broadly based, a sign of the health of the graduate programs in Providence.

TABLE I
MEDICAL SCHOOLS ATTENDED
BY INTERNS IN THE HOSPITALS OF
THE STATE OF RHODE ISLAND.

REGION	1977-78	1978-79	1979-80
NEW ENGLAND	(23)	(34)	(27)
Boston U.	3	1	2
Brown	11	13	9
U. Conn.	1	1	2
Dartmouth	1		1
Harvard	1	3	1
U. Mass.	2	5	6
Tufts	3	2	4
U. Vermont	1	3	
Yale		6	2

(Table I continued on page 345)

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TABLE I
(continued)

MIDDLE ATLANTIC	(36)	(41)	(41)
A. Einstein			2
Albany	2	3	4
Columbia	2		3
Cornell	2		3
Georgetown	2	5	2
George Washington	2	2	1
Hahnemann	3	2	3
Jefferson	3		1
Johns Hopkins	1		2
Maryland			1
Med. Coll. Penn.	1		3
Mt. Sinai	1	2	1
New Jersey	1	3	
New York Medical	5	7	5
New York U.		3	4
U. Penn.	2	1	
Penn. State		1	
U. Pittsburgh	2	1	
U. Rochester	3	3	2
Rutgers		2	2
State U. (NY)	4	4	2
Temple		2	
SOUTH	(6)	(1)	(14)
Baylor			1
Duke			1
Emory	1		
U. Florida	1		1
M.C. Virginia			3
U. Miami	1		2
Tenn.			2
U. Texas	1		1
Tulane	1		
U. Virginia	1	1	1
U. West Virginia			2
MID-WEST	(11)	(14)	(9)
Arizona			1
U. Cincinnati	1	1	
Chicago (Osteopath)	1		
Colorado			1
Creighton	2		
Indiana		2	
Kansas			1
Loyola		1	
Michigan	1		
Michigan State	1	1	1
Minnesota		1	
Nebraska		1	
Northwestern	1		1
St. Louis U.	1	1	4
S. Illinois		2	
Wayne State	1	2	
Wisconsin	2	2	
WEST	(7)	(2)	(3)
U. California	2		
U. Colorado	1		
U. New Mexico	1		
Oregon			1
U. Washington	3	2	2
FOREIGN SCHOOLS	(8)	(3)	(3)
Beirut		1	
Bologna	1		
Brussels	3		
Catholic (Seoul)			1
El-Azhar		1	
Guadalajara	2	1	1
R.C.S., Ireland			1
Roma	2		

TABLE II

REGIONAL PATTERN OF MEDICAL
SCHOOLS ATTENDED BY STATE OF
RHODE ISLAND INTERNS
(1977-78, 1978-79, AND 1979-80)

REGION	1977-78	1978-79	1979-80
NEW ENGLAND	23 (25%)	34 (36%)	27 (28%)
MIDDLE ATLANTIC	36 (40%)	41 (43%)	41 (42%)
SOUTH	6 (7%)	1 (1%)	14 (14%)
MIDWEST	11 (12%)	14 (15%)	9 (9%)
WEST	7 (8%)	2 (2%)	3 (3%)
FOREIGN	8 (9%)	3 (3%)	3 (3%)
	91	95	97

TABLE III

PLACES OF RESIDENCE,
1977-78, 1978-79, AND 1979-80
STATE OF RHODE ISLAND INTERNS

REGION	1977-78	1978-79	1979-80
NEW ENGLAND	(28)	(41)	(36)
Connecticut	5	7	6
Maine			2
Massachusetts	7	19	15
New Hampshire			1
Rhode Island	15	14	12
Vermont	1	1	
MIDDLE ATLANTIC	(40)	(36)	(35)
District of Columbia		1	1
Maryland		1	3
New Jersey	8	6	5
New York	24	23	20
Pennsylvania	8	5	6
SOUTH	(5)	(4)	(16)
MIDWEST	(14)	(10)	(6)
WEST	(3)	(3)	(4)
FOREIGN	(1)	(1)	
	91	95	97

Table 3 summarizes the places of residence of the 1977-78, 1978-79, and 1979-80 state of Rhode Island interns. The regional states of New York, Rhode Island, Massachusetts, and Connecticut continue to be the more commonly listed states. Small numbers of mid-westerners, southerners, and westerners continue to fulfill their graduate medical educational requirements in Rhode Island. The number of foreign-born and foreign-trained physicians in the internship system of the state of Rhode Island remains at a very low

level, at frequencies substantially lower than those recorded at the beginning of this decade. (In 1970, over one-third of local interns were educated in foreign countries. Presently, it is about 3 per cent).

In previous columns on this subject, the observation was made that the patient-care internships in the hospitals affiliated with Brown University were filled by well-qualified graduates of American medical schools. This year's cohort of interns certainly strengthens this observation and reaffirms the impression that the Brown University consortium of teaching hospitals is increasingly regarded as a provider of desirable places for graduate medical education. The level of patient care will certainly be favorably affected.

Stanley M. Aronson, MD
Dean of Medicine
Brown University

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Brief Summary

INDICATIONS: For the prevention and treatment of nocturnal recumbency leg muscle cramps, including those associated with arthritis, diabetes, varicose veins, thrombophlebitis, arteriosclerosis, and static foot deformities

CONTRAINDICATIONS: Because of the quinine content, Quinamm is contraindicated in women of childbearing potential, in pregnancy in patients with known quinine sensitivity, and in patients with glucose-6-phosphate dehydrogenase deficiency. Hemolysis (with the potential for hemolytic anemia) has been associated with a G-6-PD deficiency in patients taking quinine

PRECAUTIONS: Thrombocytopenic purpura may follow the administration of quinine in highly sensitive patients. Recovery will follow withdrawal of the medication. Cinchona alkaloids, including quinine, have the potential to depress the hepatic enzyme system that synthesizes the vitamin K-dependent factors. The resulting hypoprotrombinemic effect may enhance the action of warfarin and other oral anticoagulants.

ADVERSE REACTIONS: Aminophylline may produce intestinal cramps in some instances, and quinine may produce symptoms of cinchonism, such as tinnitus, dizziness, and gastrointestinal disturbance. If ringing in the ears, deafness, skin rash, or visual disturbances occur, the drug should be discontinued

DOSAGE AND ADMINISTRATION:
1 tablet upon retiring. When necessary, 1 additional tablet may be taken following the evening meal

Product Information as of September, 1977
U.S. Patent 2,985,558

Merrell

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- Vasodilan—compatible with coexisting diseases
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***Indications:** Based on a review of this drug by the National Academy of Sciences-National Research Council and/or other information, the FOA has classified the indications as follows:

Possibly Effective:

- 1 For the relief of symptoms associated with cerebral vascular insufficiency
- 2 In peripheral vascular disease of arteriosclerosis obliterans, thromboangiitis obliterans (Buerger's Disease) and Raynaud's disease

Final classification of the less-than-effective indications requires further investigation.

Composition: Vasodilan tablets, isoxsuprine HCl, 10 mg. and 20 mg. Vasodilan injection, isoxsuprine HCl, 5 mg., per ml.

Dosage and Administration: Oral: 10 to 20 mg., three or four times daily. Intramuscular: 5 to 10 mg. (1 or 2 ml.) two or three times daily. Intramuscular administration may be used initially in severe or acute conditions.

Contraindications and Cautions: There are no known contraindications to use when administered in recommended doses. Should not be given immediately postpartum or in the presence of arterial bleeding.

Parenteral administration is not recommended in the presence of hypotension, tachycardia.

Intravenous administration should not be given because of increased likelihood of side effects.

Adverse Reactions: On rare occasions oral administration of the drug has been associated in time with the occurrence of hypotension, tachycardia, nausea, vomiting, dizziness, abdominal distress, and severe rash. If rash appears the drug should be discontinued.

Although available evidence suggests a temporal association of these reactions with isoxsuprine, a causal relationship can be neither confirmed nor refuted.

Administration of single dose of 10 mg. intramuscularly may result in hypotension and tachycardia. These symptoms are more pronounced in higher doses. For these reasons single intramuscular doses exceeding 10 mg. are not recommended. Repeated administration of 5 to 10 mg. intramuscularly at suitable intervals may be employed.

Supplied: Tablets, 10 mg., bottles of 100, 1000, 5000 and Unit Dose; Tablets 20 mg., bottles of 100, 500, 1000, 5000 and Unit Dose; Injection, 10 mg. per 2 ml. ampul, box of six 2 ml. ampuls.

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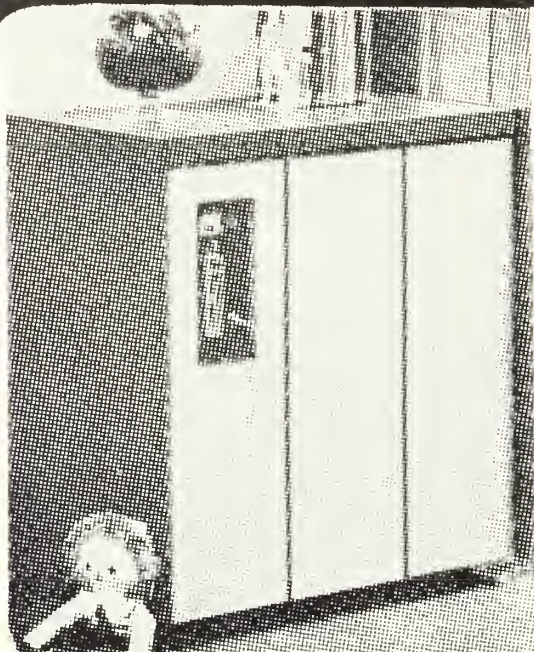
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10 mg. capsules, 20 mg. tablets,
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helps control abnormal motor activity
with minimal anticholinergic side effects[†]

Demonstrated smooth muscle relaxant activity.

In this double-blind study, twenty patients having G.I. series and exhibiting spasm were randomly selected to receive either 2 cc. of Bentyl or sodium chloride intramuscularly. Ten minutes after the injection another radiograph was taken . . .

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Pylorospasm has almost totally blocked passage of barium meal.



Barium meal beginning to pass 10 minutes after intramuscular injection of 20 mg. Bentyl.

"The correlation of spasm relief and drug given was excellent."

*This drug has been classified probably effective in treating functional bowel/irritable bowel syndrome

†See Warnings, Precautions and Adverse Reactions.

See following page for prescribing information.

Reference:

King, J.C. and Starkman, N.M. Evaluation of an antispasmodic. Double-blind evaluation to control gastrointestinal spasms occurring during radiographic examination. A preliminary report. Western Med. 5:356-358, 1964

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INDICATIONS

Based on a review of this drug by the National Academy of Sciences—National Research Council and/or other information, FDA has classified the following indications as "probably" effective:

For the treatment of functional bowel/irritable bowel syndrome (irritable colon, spastic colon, mucous colitis) and acute enterocolitis.

THESE FUNCTIONAL DISORDERS ARE OFTEN RELIEVED BY VARYING COMBINATIONS OF SEDATIVE, REASSURANCE, PHYSICIAN INTEREST, AMELIORATION OF ENVIRONMENTAL FACTORS.

For use in the treatment of infant colic (syrup).

Final classification of the less-than-effective indications requires further investigation.

CONTRAINDICATIONS: Obstructive uropathy (for example, bladder neck obstruction due to prostatic hypertrophy), obstructive disease of the gastrointestinal tract (as in achalasia, pyloro-duodenal stenosis), paralytic ileus, intestinal atony of the elderly or debilitated patient, unstable cardiovascular status in acute hemorrhage, severe ulcerative colitis, toxic megacolon complicating ulcerative colitis, myasthenia gravis. **WARNINGS:** In the presence of a high environmental temperature, heat prostration can occur with drug use (fever and heat stroke due to decreased sweating). Diarrhea may be an early symptom of incomplete intestinal obstruction, especially in patients with ileostomy or colostomy. In this instance treatment with this drug would be inappropriate and possibly harmful. Bentyl may produce drowsiness or blurred vision. In this event, the patient should be warned not to engage in activities requiring mental alertness such as operating a motor vehicle or other machinery or perform hazardous work while taking this drug. **PRECAUTIONS:** Although studies have failed to demonstrate adverse effects of dicyclomine hydrochloride in glaucoma or in patients with prostatic hypertrophy, it should be prescribed with caution in patients known to have or suspected of having glaucoma or prostatic hypertrophy. Use with caution in patients with Autonomic neuropathy. Hepatic or renal disease. Ulcerative colitis. Large doses may suppress intestinal motility to the point of producing a paralytic ileus and the use of this drug may precipitate or aggravate the serious complication of toxic megacolon. Hyperthyroidism, coronary heart disease, congestive heart failure, cardiac arrhythmias, and hypertension. Hiatal hernia associated with reflux esophagitis since anticholinergic drugs may aggravate this condition.

Do not rely on the use of the drug in the presence of complication of biliary tract disease. Investigate any tachycardia before giving anticholinergic (atropine-like) drugs since they may increase the heart rate. With overdosage, a curare-like action may occur. **ADVERSE REACTIONS:** Anticholinergics/antispasmodics produce certain effects which may be physiologic or toxic depending upon the individual patient's response. The physician must delineate these. Adverse reactions may include xerostomia, urinary hesitancy and retention, blurred vision and tachycardia, palpitations, mydriasis, cycloplegia, increased ocular tension, loss of taste, headache, nervousness, drowsiness, weakness, dizziness, insomnia, nausea, vomiting, impotence, suppression of lactation, constipation, bloated feeling, severe allergic reaction or drug idiosyncrasies including anaphylaxis, urticaria and other dermal manifestations, some degree of mental confusion and/or excitement, especially in elderly persons, and decreased sweating. With the injectable form there may be a temporary sensation of lightheadedness and occasionally local irritation. **DOSEAGE AND ADMINISTRATION:** Dosage must be adjusted to individual patient's needs.

Usual Dosage: Bentyl 10 mg capsule and syrup. **Adults:** 1 or 2 capsules or teaspoonfuls syrup three or four times daily. **Children:** 1 capsule or teaspoonful syrup three or four times daily. **Infants:** ½ teaspoonful syrup three or four times daily (May be diluted with equal volume of water). Bentyl 20 mg. **Adults:** 1 tablet three or four times daily. Bentyl Injection. **Adults:** 2 ml (20 mg) every four to six hours intramuscularly only. **NOT FOR INTRAVENOUS USE.** **MANAGEMENT OF OVERDOSE:** The signs and symptoms of overdose are headache, nausea, vomiting, blurred vision, dilated pupils, hot, dry skin, dizziness, dryness of the mouth, difficulty in swallowing, CNS stimulation. Treatment should consist of gastric lavage, emetics, and activated charcoal. Barbiturates may be used either orally or intramuscularly for sedation but they should not be used if Bentyl with Phenobarbital has been ingested. If indicated, parenteral cholinergic agents such as Urecholine* (bethanechol chloride USP) should be used.

Product Information as of October, 1978

Injectable dosage forms manufactured by CONNAUGHT LABORATORIES, INC., Swiftwater, Pennsylvania 18370 or TAYLOR PHARMACAL COMPANY, Decatur, Illinois 62525 for MERRELL-NATIONAL LABORATORIES, Division of Richardson-Merrell Inc., Cincinnati, Ohio 45215, U.S.A.

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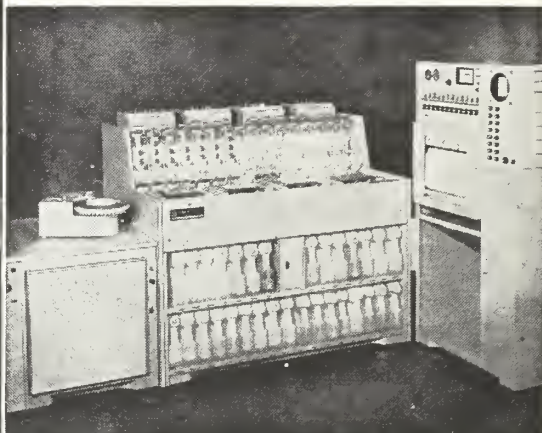
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Experience with the Giliberty Bipolar Endoprosthesis

Excellent Results Indicate Its Usefulness In Hip Surgery

By Kenneth G. Knowles, MD
Richard E. Murphy, MD
Geret A. DuBois, MD

In May of 1975, the authors were presented with a case of bilateral idiopathic aseptic necrosis of the hips in a twenty-five year old white male (Fig 1). After much soul searching and several consultations we learned of the Giliberty bipolar endoprosthesis. We felt that this offered an alternative to a total hip replacement (THR) or a Moore type arthroplasty. It was felt that the acetabulum could be preserved along with an acceptable range of motion, but that, if it was necessary several years later to replace this apparatus with a THR, it could be accomplished with relative ease, as the femoral component is interchangeable with that of the Aufranc-Turner total hip.

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Figure 1. X-ray Bilateral Aseptic Necrosis in Twenty-five Year Old Male.

In theory Giliberty's prosthesis contains the original concept of the Smith-Peterson cup arthroplasty, where there is free motion between the mold and the acetabular surface,^{6,7} and the THR, where all motion takes place at the low friction articulation of the polyethylene cup and stainless steel stem

From the Departments of Orthopedic Surgery of St. Joseph's Hospital, Providence, Rhode Island; Rhode Island Hospital, Providence, Rhode Island; and The Memorial Hospital, Pawtucket, Rhode Island.

Presented at Academy Day, American Academy of Orthopedic Surgeons, Cranston, Rhode Island, September 16, 1978.

head.¹ It has been described as a "biaxial prostheses".¹ It would follow, therefore, that the bipolar endoprosthesis was certainly amenable for use in displaced subcapital fractures in older patients (Figs 2,3). The bipolar implant has the advantage over the unipolar implant of letting the cup position itself in, in relation to the acetabulum. This essentially allows function similar to a universal joint, giving it the ability to align itself.²



Figures 2-3. Pre- and Post-operative X-rays Sub-capital Fracture.



Figure 4. Post-operative X-ray (Figure 1.).

After our first case proved satisfactory, his other side was done with equally satisfactory results (Fig 4). Since that time better than thirty of these operations have been performed by the authors.

Indications

Indications for use of the bi-polar endoprosthesis in this series were: (1) aseptic necrosis of the femoral head, (2) degenerative arthritis with minimal or no acetabular involvement, and (3) displaced subcapital fractures of the hip. We were selective in choosing the cases of hip fractures to those that were good candidates for ambulation postoperative either physically or mentally.

Giliberty includes, in addition to those indications already mentioned, non-union of femoral neck fractures, pathological fractures of femoral necks, and young patients with primary pathology involving the femoral head but with a non-deformed acetabulum.³

Contraindications

Rheumatoid arthritis, active hip joint infection, advanced decalcification of the femur resulting from prolonged steroid therapy, poor acetabuli from whatever cause, neuromuscular disorders involving the hip, and poor potential for postoperative ambulation are contraindications for this procedure.

Apparatus and Instrumentation

The Giliberty bi-polar endoprosthesis is an advanced femoral head replacement engineered to minimize pain and erosion at the prosthesis-acetabular interface as well as reduce the potential for dislocation.³ It consists of an ultra-high molecular weight polyethylene liner permanently pressed into a highly polished cast-alloy cup and a snap-fit thirty-two millimeter femoral head which articulates with the polyethylene liner throughout normal ranges of motion (Fig 5). Femoral components like its THR counterpart come in three neck lengths, but a wide latitude of femoral implant design could be substituted. Theoretically, at the extreme ranges of motion, the uncemented snap-fit cup rotates within the acetabulum, effectively reducing the potential for dislocation.³

Instrumentation is not extensive. There are six hemispherical trial gauges with screw-in T

handles. A rasp is used for reaming the neck and upper shaft. Curettes are needed for removing as much cancellous bone as possible where glue is being used for the femoral stem.



Figure 5. Giliberty Components.

Approach and Surgery

Except for the first case where an Austin-Moore exposure was made, McFarland's modified Kocher posterolateral approach was used in all cases. A conjoined tendon is made of the gluteus medius and anterior half of the origin of the vastus lateralis, which is then reflected anteriorly.⁴ This approach affords very adequate exposure but necessitates a sterile leg pocket to keep the leg in during surgery as the hip is dislocated by external rotation and adduction. No attempt is made to remove the capsule and is closed wherever possible.

The procedure through this approach is similar to that of a Moore arthroplasty.⁸ Once the femoral head has been removed and the acetabulum found to be free of deformity, the size cup is determined by the trial gauges. The fit should be snug but allow free motion. The femoral component is inserted as in an Aufranc-Turner THR.⁹ Before gluing the stem in, the entire apparatus is assembled and inserted, and the hip is reduced and placed through a full range of motion. If this is felt to be satisfactory, the hip is redislocated, the apparatus disassembled, and the femoral component glued into place usually with neutral version. Lastly, the prosthesis is reassembled and reduced, and the wound is closed in layers.

Pre- and Postoperative Care

Pre- and postoperative care are essentially the same as for THR. This includes a thorough

medical and laboratory work-up, insertion of a Foley bladder catheter, and institution of antibiotics two hours before surgery, during surgery, and forty-eight hours after surgery, followed by five days of oral antibiotics. A Hemovac® large bore drain is used for forty-eight hours. For ten days the patient is kept in abduction splints in roughly neutral rotation. After ten days the patient is allowed to sit in a high chair to prevent flexion beyond 90 degrees. A toilet seat extension as used in THR surgery is utilized. In addition to active and active-assistive hip exercises, walking training with a walker and full weight bearing is instituted by the eleventh or twelfth postoperative day. Aspirin is used routinely in the hope of lowering thromboembolic complications.

Results

Thirty bi-polar endoprostheses were employed in twenty-eight patients. Diagnoses were primarily displaced subcapital fractures in twenty-one hips, idiopathic aseptic necrosis in four hips, aseptic necrosis associated with old healed subcapital fractures in two hips, and degenerative arthritis in three hips.

There was one intra-hospital death due to pulmonary embolism. Three other patients died after discharge of medical causes unrelated to surgery, and a fourth suffered a major cerebrovascular accident after discharge from the hospital and could not be followed.

Twenty-five hips were followed in twenty-three patients. Follow-up ranged from four months to over three years. Results were graded according to the classifications of d'Aubigne and Postel⁵, as in Giliberty's series (Fig 6). This method grades the results on a I to VI scale as noted in Fig 6. In this series only one patient was classified as category IV, which we consider an unacceptable result. One patient was in the fair category (IV to V) because of some pain on ambulation despite an acceptable range of motion and limited gait with a cane. The majority of our cases could be placed within the good, good-to-excellent, or excellent categories. Ninety-two per cent of our cases fell within these limits. There were seven patients in category V (good), eleven hips in category V-VI (good-fair), and five cases in category VI (excellent). Most patients classified in the V-

GRADE	PAIN	MOBILITY	GAIT
I	Severe, constant	Markedly limited	Only with crutches
II	Severe, with weight bearing	Flexion markedly limited	Requires two canes
III	Less severe, but limiting	Flexion less than 90 degrees	Requires a cane
IV	Pain only with ambulation	Flexion 90 degrees Abduction 25 degrees	Limited with a cane
V	Mild, tolerable	Flexion 90 degrees Abduction 25 degrees	Detectable limp, improved with cane
VI	None	Flexion 110 degrees Abduction 40 degrees	Normal

Figure 6. Grading Critique of d'Aubigne and Postel.

<i>Grade</i>	<i>No.</i>	<i>%</i>
POOR	0	0
FAIR	1	4.0
FAIR-GOOD	1	4.0
GOOD	7	28
GOOD-EXCELLENT	11	44
EXCELLENT	5	20

Figure 7. Results.

VI range had little or no pain and usually a class VI range of motion, but had detectable limps improved with a cane (Fig 7).

Average operating time in the thirty cases was 108 minutes, and an average of less than one unit of blood was required for replacement during surgery. The average hospital stay was 24.7 days with extremes of six days and forty-four days. The shortest stay was in our youngest patient, who absolutely refused to be hospitalized any longer. Our longest was transferred to the Medical Service for medical complications two weeks prior to discharge. Interestingly, in both patients class VI results were achieved.

Complications

There was only one immediate postoperative death due to massive pulmonary embolism. Altogether, there were two cases of pulmonary emboli, the second making a full recovery on anticoagulant therapy. Two cases of deep thrombophlebitis were recorded, each recovering with medical management. There were two minor superficial wound infections which rapidly recovered with local care.

There were no deep infections. However, approximately six weeks prior to this review, the first mechanical failure occurred (Fig 8). This occurred five and one-half months post-



Figure 8. X-ray Dislocated Apparatus.

operatively. In retrospect we feel the patient was a poor candidate for this procedure in that she proved to be a completely unreliable patient (schizophrenic) with a seizure disorder. She was re-admitted to the hospital. It was found that she had separated the snap-fit ball and socket mechanism, while the cup stayed in the acetabulum assuming an extreme varus position. Attempted closed reduction under general anesthesia and C-arm fluoroscopic control was attempted. Although we were able to get the snapfit back, it failed to stay assembled under adduction stress. Therefore, operative intervention was considered necessary. The cup was removed and replaced with a standard Aufranc-Turner polyethylene cup glued into place with methyl methacrylate. There was no problem with exposure again using the McFarland approach. The original femoral component was left untouched and did not present an obstruction to reaming of the acetabulum (Fig 9).

There have been three dislocations reported to us by local colleagues. One of these was secondary to a hard fall in a nursing home three months postoperatively. This was sufficient trauma to have dislocated a THR or caused a concomitant fracture with a Moore prosthesis. One other patient was allowed to get out of postoperative immobilization and into severe flexion within 48 hours. The third we feel resulted from too small an acetabular component, allowing the cup eventually to be levered out of the socket.

Discussion

Based on this series with 92 per cent good to excellent results with only two serious complications (one death secondary to massive pulmonary embolism and one mechanical failure of the apparatus), the authors believe that bi-polar endoprosthesis has a place in the ever-growing list of hip arthroplasties. Only time will tell if this apparatus will compare favorably with Moore arthroplasties or THR. Advantages of this procedure appear to be five-fold. It requires less surgical time (average 108 minutes) than THR and is comparable in time to a Moore arthroplasty. It preserves the acetabulum. There is no necessity to have a correct acetabular angle of the cup or anteversion of the femoral component as in THR. The acetabular component alone can be replaced later if THR is necessary



Figure 9. Exposure for THR Adequate Without Removing Femoral Component.

provided there is adequate exposure. In theory it should decrease the incidence of dislocations. With extreme flexion, extension, or abduction-adduction motion the neck of the femoral component when abutting against the rim of the cup should allow motion at the cup acetabular interface, reducing the incidence of dislocations.

It is of interest that in approximately fifty per cent of our cases a varus attitude of the acetabular component was present (Fig 10). We learned from the manufacturer that this was noted by others. This variance does not appear to be a factor in the results, nor does it appear to cause dislocations.

Critics of the procedure have raised the questions as to whether the cup actually does move as proposed or become fixed, allowing most motion at the polyethylene interface. Stress films in abduction and adduction have revealed some cup motion (Fig 11). Cineradiographs were obtained on three hips showing that when needed there is indeed adequate motion of the cup within the acetabulum.

Summary

1. Thirty bi-polar endoprosthesis arthroplasties are reviewed.
2. Ninety-two per cent good to excellent results were obtained, although follow-up is relatively short.
3. There was one major complication of disruption of the "snap-fit" cup, and there was one death.



Figure 10. Varus Attitude of Cups.



Figure 11. Abduction, Adduction Stress Films Showing Motion of Cup.

4. Indications, contraindications, advantages, management, and postoperative x-ray findings are discussed.

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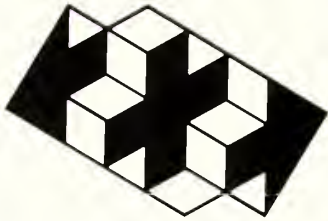
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An Overview of the Current Status of Islet Cell Transplantation as a Treatment for Diabetes Mellitus

Islet Cell Transplantation, Artificial Pancreas, Or Genetic Insulin Synthesis Offer Possibilities for Physiologic Glucose Regulation.

By Moe Kakvan, MD, MSc
Alan J. Garber, MD, PhD

There is little doubt that the development and availability of injectable insulin preparations and subsequently of the oral hypoglycemia agents have prolonged the life of patients with diabetes mellitus. This prolongation is attributable primarily to a sharp reduction in the mortality from the diabetic comas including hyperosmolar non-ketotic coma as well as diabetic ketoacidosis. However, owing to pharmacologic limitations of available preparations of exogenous insulin, their usage fails to provide physiologic regulation of blood glucose levels *in vivo* during periods of meal ingestion or exercise.¹ As a result, restoration of normal physiology through an approximation of normal beta cell function is not presently attainable using currently available pharmacologic means. This is a particularly important point since studies have demonstrated that the blood glucose level is a finely regulated parameter of body

metabolism having minimal excursions during a 24 hour period, despite the ingestion of large quantities of carbohydrate during meals.² Normally, glucose regulation is achieved by appropriate alterations in B-cell insulin output, which facilitates hepatic uptake of ingested glucose as well as the peripheral disposal of glucose in such tissues as skeletal muscle and adipose tissue. Beta cell insulin secretion can vary widely, ranging from virtually no insulin output during fasting, to 25-50-fold elevations as during a glucose tolerance test. Combined with the secondary influence of the alpha cell hormone, glucagon, fine modulation of insulin and glucagon levels by the islet cells *in vivo* achieves a tight regulation of the blood glucose level at all times. This form of metabolic regulation is impossible at present in patients who secrete little or no endogenous insulin, and the physiologic hyperglucagonemia of diabetes mellitus considerably complicates this picture.

Injectable preparations of insulin have characteristic absorption rates and peak action times which reflect the crystalline state of the hormone and the influence of hormone binders such as protamine. For example, regular insulin achieves a peak blood level one hour after subcutaneous injection, whereas protamine complexed insulin such as NPH

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insulin achieves a peak blood level varying between six and ten hours after the time of injection. The ingestion of food or carbohydrate in no way modifies the appearance of injectable insulin in blood. Thus, a requirement for meals to be eaten at appropriate intervals occurs so as to match the appearance time of insulin already injected in the patient. This then is the reverse of the normal physiological situation in which insulin is secreted in response to meal ingestion. In studies of blood glucose regulation in seemingly well-controlled insulin-dependent diabetics, Molnar and colleagues demonstrated wide swings in blood glucose levels ranging from a low point of 40-50 mg/dl through peak glucose levels of greater than 400 mg/dl following mean ingestion.²

In view of the limitations of currently available pharmacologic preparations of insulin, research on the transplanatation and the metabolic impact of islet cells in a variety of experimental animal settings has achieved a new importance in studies directed towards better control of patients with diabetes mellitus. For the most part these studies have been performed with two major goals: first, to develop mechanisms by which transplanted islet cells will maintain better minute-to-minute regulation of the blood glucose level without the need for exogenous insulin; second, to ascertain whether physiologic regulation of the blood glucose level in patients with diabetes mellitus will ameliorate or prevent the development of the complications of diabetes. It is these latter complications, such as diabetic nephropathy, retinopathy, and cardiovascular disease, which are now the major causes of morbidity and mortality for patients with diabetes mellitus.

The islets of Langerhans are histologically discrete loci of cell types which comprise only about 2 per cent of the total volume of the adult human pancreas. Islets contain in the central core a large proportion of β -cells (approximately 90 per cent) and an outer layer of predominantly α -cells and Δ -cells. The former are believed the principal secretors of glucagon, whereas the latter appear to contain the somatostatin containing granules of the human pancreas. Techniques for isolation of islets from the remaining exocrine alveolar cells and ductular cells of the pancreas are still in a state of refinement. The principal problem of separation requires the prevention

of activation of endogenous pancreatic proteases which would otherwise destroy intact islets isolated from pancreas minces using collagenase treatment. These techniques are well worked out and at a nearly final state of development. The more thorny problem with the present understanding of transplantation immunology concerns the development of adequate immunosuppressive methods to prevent rejection of transplanted islet cells. This problem is of course common to other problems of transplantation immunology such as cardiac transplantation and kidney transplantation.

In this review we will examine the laboratory experience and clinical trials concerning islet cell transplantation and review the current status of research directed to solve the major issues which preclude islet transplantation as a present-day treatment for patients with insulin-dependent diabetes mellitus.

Laboratory Experience in Islet Transplantation

Initial attempts to transplant adult pancreatic fragments were unsuccessful, largely because of the contamination by associated exocrine proteolytic enzymes which digested the transplanted tissue or produced massive injury in the recipient.³ Subsequent development of specific techniques to isolate relatively purified islets washed free of contaminating proteolytic enzymes and not associated with exocrine pancreatic cells were developed. These methods rely largely upon collagenase digestion and differential centrifugation of minced pancreatic fragments. This technique remains in current use for the isolation of viable pancreatic islets in good yield from relatively small amounts of whole pancreatic tissue.⁴ Successful transplantation of pancreatic fragments, however, was first achieved with fetal tissues.⁵ In these experiments small quantities of fetal pancreas were transplanted to various sites, including subcutaneous pockets and intraperitoneal injections. For the most part, using immunologically tolerant rats, these grafts survived and appeared to function. A major contribution to the field of islet transplantation was provided by Kemp and his associates⁶ when they demonstrated that transplantation of isolated islets by way of injection into the portal vein was more efficacious than intraperitoneal transplantation. In these comparative experiments islet

cells isolated from adults appeared to ameliorate only partially the diabetic state when transplanted intraperitoneally, but the same number of transplanted islets completely obliterated all evidence of hyperglycemia when the transplantation was performed via intraportal injection. However, it is not clear whether the efficacy of portal venous transplantation of islets derives from the fact that the portal vein is a slightly more immunologically privileged site and hence more islets survive transplantation because of immunologic considerations or because of the increased blood supply in the portal vein, or whether there is an intrinsic metabolic advantage to portal transplantation because the bulk of insulin is normally secreted into the portal venous bed. Since the liver clears at least 50 per cent of insulin secreted on each pass through the portal venous circulation, direct effects of high levels of insulin secretion on the liver are best obtainable by intraportal localization of the islet cells. In studies on the intrahepatic transplantation of islets in the rat, it was found that these islet cells remain viable for at least six months duration and that hepatic function studies demonstrated no impairment of routine liver function tests.⁷ In addition, ultrastructural analysis demonstrated graft tolerance without widespread immunologic or fibrotic reaction in the liver.

In other studies islets of Langerhans from unrelated donor rhesus monkeys were transplanted into the portal vein of monkeys made diabetic by streptozotocin.⁸ In these studies islets were isolated by a more efficient process of digestion and ultrafiltration which allowed for the first time a successful isolation of large numbers of islets in subhuman primates. These studies demonstrated marked improvement and even amelioration of the diabetic state in these primates. Other studies have investigated a variety of transplantation sites. For example, Koncz et al⁹ utilized the spleen of previously diabetic rats as the site of islet transplantation. These authors found that islet transplantation controlled the diabetes. Subsequent splenectomy including removal of the transplanted islets produced an exacerbation of the diabetes and a return of the abnormal metabolic state. Histologic examination of the spleen demonstrated good survival of the graft without substantial host reaction.

Isologous islet transplantation in diabetic rats has been shown to produce normal

glycemia in the recipients for as long as 11 months.¹⁰ Homologous islet transplantation initially was equally effective. However, rejection phenomena occurred within 12 days following transplantation and, coincident with rejection, the diabetic state returned. It is interesting to note that, following islet rejection, the hosts were subsequently sensitized to skin grafts obtained from the same donors as were the islets. After a brief period of treatment with antilymphocyte serum (ALS), homografts survival was extended considerably. However, studies with antilymphocyte serum have demonstrated that islet survival is no greater than the survival of skin or heart transplantations of identical genetic makeup. Thus, islets may be at least as vulnerable to the immunologic mechanisms of rejection as other transplanted tissues.

As a result of these studies, clearly the most important result has been observations on the effects of islet transplantation on the traditional complications of diabetes mellitus. Animals with induced or genetically determined diabetes mellitus develop renal and retinal lesions identical to those observed in patients with human diabetes. In a number of studies on the impact of transplanted islets on these complications of diabetes it seems evident that restoration of normal insulin secretory mechanisms and near physiologic regulation of the blood glucose level has prevented the development and even reversed the complications of diabetes insofar as the retinal and renal disease are concerned.^{11,12}

Preparation and Transplantation of Human Islet Tissues

Isolation and Methodology. Isolation of viable islet cells from adult human pancreas is now possible using a collagenase digestion-Ficoll gradient separation technique developed by Ballinger and colleagues.¹³ Improvement of islets for transplantation can be produced by previous culturing of adult human pancreatic fragments to produce a depletion of exocrine pancreatic enzymes, yet still maintaining viable islet tissue.¹⁴ In these studies it is apparent that islet cells remain viable in culture for periods of many weeks and appear to retain normal functioning capabilities for insulin synthesis and secretion. However, it may be necessary to employ neonatal human fetal pancreas as a source for islets for

subsequent transplantation. These human fetal pancreas fragments have little or no exocrine function and therefore may be a more ideal starting material from which to isolate the islets for transplantation in man.

Clinical Trials of Islet Transplantation in Man. A large-scale well-controlled prospective clinical trial of islet transplantation in patients with diabetes mellitus is required to evaluate the efficacy of islet transplantation. Such a study has not as yet been performed, nor is it currently in progress. However, in a preliminary study by Najarian and associates¹⁵ ten islet transplantations were performed in seven immunologically suppressed patients because of prior renal allograft transplantation for end-stage diabetic nephropathy. These patients were already immunosuppressed in order to prevent renal rejection, and additional immunologic suppression did not appear to be required for subsequent transplantation of islets. In this study small quantities of functioning islet cells were transplanted either intramuscularly, intraperitoneally, or into the portal vein. Islet transplantation did not increase the frequency of rejection episodes of the previously transplanted kidneys, and there appeared to be no complications attendant on islet transplantation in any of the patients studied. Of the seven patients in this study insulin requirements were diminished in two patients and were unchanged in the remaining five. No patient was cured of diabetes by these preliminary transplantation studies. Based on previous studies using experimental animals, it has become apparent that a critical mass of islet cells must be transplanted in order to normalize blood glucose dynamics in those experimental animals. The study of Najarian and coworkers demonstrates a similar conclusion by inference. It is possible to hypothesize that the failure to reduce insulin dosage in all patients or to cure patients of diabetes may have been the primary result of the obviously inadequate mass of transplanted islet cells in these subjects. However, rejection of transplanted islets must also be considered as a basis for the failure to achieve optimal results in all patients studied.

Conclusions

In studies with laboratory animals it has become apparent that islet transplantation can successfully ameliorate or cure the metabolic

abnormalities of experimentally induced diabetes mellitus. More importantly, islet cell transplantation appears to arrest the progression of the microvascular complications of diabetes in the recipients. Indeed, reversal of microvascular lesions may in fact occur with normalization of the blood glucose levels in the recipient animals. Since the oral hypoglycemic agents and injectable insulin have modified the acute mortality associated with diabetes mellitus, but not successfully altered the vascular complications of the disease, it is apparent that islet transplantation may provide a substantial, novel, and ultimately highly beneficial treatment for patients with diabetes mellitus. However, based on the laboratory experience of at least one study with human subjects, islet transplantation may be less efficacious in man than in experimental animals. The reasons for this apparent lack of efficacy are numerous and need to be clarified in subsequent large-scale studies in diabetic man. Such studies are hitherto lacking. Obviously, allotransplantation would be less deleterious to the recipient host than the transplantation of whole or partial organ transplants of the human pancreas. The latter is an extremely difficult surgical procedure requiring much the same immunologic suppression of rejection mechanisms, but is additionally complicated by the maintenance of proteolytic enzyme synthesis and secretion capacities within the vicinity of the transplanted islets. Furthermore, since less than 50 per cent of the islet cell mass is required in normal man to maintain normal glucose dynamics *in vivo*, a single donor may be capable of providing an adequate islet cell mass for a number of recipient subjects.

Allograft rejection is the major barrier to the clinical application of islet transplantation in patients with diabetes mellitus. Currently, available immunosuppressive techniques are not acceptable in the management of patients with diabetes mellitus. Since the mortality rate from diabetes per year is small, the use of full immunologic suppression with an attendant mortality rate which is higher than that due to diabetes alone is not a satisfactory therapeutic maneuver. Thus, until more safe and satisfactory methods of immunologic suppression to prevent islet rejection are developed, islet transplantation remains a therapeutic tool to be held in abeyance.

Because of these immunologic difficulties with transplantation, alternative mechanisms for better control of patients with diabetes mellitus are presently in a state of development. These mechanisms include the development of an artificial pancreas, which utilizes an electronic glucose sensor to couple with a computer-fitted insulin pump.¹⁶ This mechanism is envisioned as an implantable electronic package to monitor the blood glucose level and administer insulin or glucagon, or both to maintain the fine regulation of the blood glucose level. The principal difficulties in the development of the artificial pancreas are the development of an adequate glucose sensing mechanism which does not require frequent access for changing of membranes and electronic parts. Alternative mechanisms for the management of patients with diabetes mellitus are also envisioned using newly developed techniques of cell biology.¹⁷ Experiments to isolate the message for human insulin have been successful recently at this institution. This technique allows for the ability to isolate the human gene for insulin production. Currently developing research on methods of insertion of the human genetic insulin secreting mechanisms into human cells are some distance in the future. Nevertheless, this method may provide the only satisfactory cure for patients with diabetes mellitus, since it will reintroduce the capacity to synthesize and secrete insulin. Regrettably, these techniques will not be fully developed within at least the next 5-10 years, but offer substantial hope for patients with diabetes mellitus to provide physiologic regulation of the blood glucose level and hence a true cure for diabetes mellitus. In a recent report Galletti¹⁸ has described a hybrid artificial pancreas consisting of a barrier membrane and isolated beta cells, which has shown some promise.

Summary

Insulin and the oral hypoglycemic agents have reduced the mortality of patients with diabetes due to the acute hyperglycemic diabetic comas. Despite and perhaps because of the widespread use of these agents, the microvascular and macrovascular complications of diabetes mellitus have become the major causes of morbidity and mortality in this disease. Because of pharmacologic limitations, the use of injected

insulin produces only a rare modicum of blood glucose control, which in no way resembles that observed in non-diabetic patients. Recent advances in surgical techniques and in islet isolation procedures have provided the possibility for the isolation and transplantation of human islet cells. This technique, used extensively in laboratory animals, has produced a seeming cure for diabetes mellitus, insofar as blood glucose levels are concerned. In experimental animal studies transplanted islets have ameliorated the progression of the vascular complications of diabetes, and have produced actual reversal of diabetic complications, insofar as the renal disease is concerned.

Practical techniques for the isolation and purification of islets from human pancreas fragments, particularly neonatal pancreases, have been developed. In preliminary studies with human subjects islet transplantation has produced a partial reduction in insulin dosages. However, successful application of islet transplantation in man awaits the development of effective management of the immunologic rejection process. Without new mechanisms for such management the clinical utility of islet transplantation as a management tool for patients with diabetes mellitus remains extremely limited. Other techniques for more physiologic regulation of the blood glucose level are being developed. These include an artificial pancreas which relies on an electronic glucose sensor and electronic pumps to deliver insulin and glucagon to the blood stream *in vivo*, and also the new genetic approaches of modern cell biology to isolate, purify, and insert the insulin synthesis and secretion genetic capability into the cells of diabetic patients.

Which of these three methods of diabetes management in the future ultimately becomes routine will depend upon continuing research efforts. Significant limitations exist on all three methods, thereby preventing their immediate utilization in patients with diabetes mellitus.

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Brief Summary

INDICATION Tenuate and Tenuate Dospan are indicated in the management of exogenous obesity as a short-term adjunct (a few weeks) in a regimen of weight reduction based on caloric restriction. The limited usefulness of agents of this class should be measured against possible risk factors inherent in their use such as those described below.

CONTRAINDICATIONS Advanced arteriosclerosis, hyperthyroidism, known hypersensitivity or idiosyncrasy to the sympathomimetic amines, glaucoma, agitated states. Patients with a history of drug abuse. During or within 14 days following the administration of monoamine oxidase inhibitors, hypertensive crises may result.

WARNINGS If tolerance develops, the recommended dose should not be exceeded in an attempt to increase the effect; rather, the drug should be discontinued. Tenuate may impair the ability of the patient to engage in potentially hazardous activities such as operating machinery or driving a motor vehicle; the patient should therefore be cautioned accordingly. **Drug Dependence.** Tenuate has some chemical and pharmacologic similarities to the amphetamines and other related stimulant drugs that have been extensively abused. There have been reports of subjects becoming psychologically dependent on diethylpropion. The possibility of abuse should be kept in mind when evaluating the desirability of including a drug as part of a weight reduction program. Abuse of amphetamines and related drugs may be associated with varying degrees of psychological dependence and social dysfunction which, in the case of certain drugs, may be severe. There are reports of patients who have increased the dosage to many times that recommended. Abrupt cessation following prolonged high dosage administration results in extreme fatigue and mental depression. Changes are also noted on the sleep EEG. Manifestations of chronic intoxication with anorectic drugs include severe dermatoses, marked insomnia, irritability, hyperactivity, and personality changes. The most severe manifestation of chronic intoxications is psychosis, often clinically indistinguishable from schizophrenia. **Use in Pregnancy.** Although rat and human reproductive studies have not indicated adverse effects, the use of Tenuate by women who are pregnant or may become pregnant requires that the potential benefits be weighed against the potential risks. **Use in Children.** Tenuate is not recommended for use in children under 12 years of age.

PRECAUTIONS Caution is to be exercised in prescribing Tenuate for patients with hypertension or with symptomatic cardiovascular disease, including arrhythmias. Tenuate should not be administered to patients with severe hypertension. Insulin requirements in diabetes mellitus may be altered in association with the use of Tenuate and the concomitant dietary regimen. Tenuate may decrease the hypotensive effect of guanethidine. The least amount feasible should be prescribed or dispensed at one time in order to minimize the possibility of overdosage. Reports suggest that Tenuate may increase convulsions in some epileptics. Therefore, epileptics receiving Tenuate should be carefully monitored. Titration of dose or discontinuance of Tenuate may be necessary.

ADVERSE REACTIONS **Cardiovascular:** Palpitation, tachycardia, elevation of blood pressure, precordial pain, arrhythmia. One published report described T-wave changes in the ECG of a healthy young male after ingestion of diethylpropion hydrochloride. **Central Nervous System:** Overstimulation, nervousness, restlessness, dizziness, jitteriness, insomnia, anxiety, euphoria, depression, dysphoria, tremor, dyskinesia, mydriasis, drowsiness, malaise, headache, rarely psychotic episodes at recommended doses. In a few epileptics an increase in convulsive episodes has been reported. **Gastrointestinal:** Dryness of the mouth, unpleasant taste, nausea, vomiting, abdominal discomfort, diarrhea, constipation, other gastrointestinal disturbances. **Allergic:** Urticaria, rash, ecchymosis, erythema. **Endocrine:** Impotence, changes in libido, gynecomastia, menstrual upset. **Hematopoietic System:** Bone marrow depression, agranulocytosis, leukopenia. **Miscellaneous:** A variety of miscellaneous adverse reactions has been reported by physicians. These include complaints such as dyspnea, hair loss, muscle pain, dysuria, increased sweating, and polyuria.

DOSAGE AND ADMINISTRATION Tenuate (diethylpropion hydrochloride) One 25 mg tablet three times daily one hour before meals, and in mid-evening if desired to overcome night hunger. Tenuate Dospan (diethylpropion hydrochloride) controlled-release. One 75 mg tablet daily, swallowed whole, in mid-morning. Tenuate is not recommended for use in children under 12 years of age.

OVERDOSAGE Manifestations of acute overdosage include restlessness, tremor, hyperreflexia, rapid respiration, confusion, assaultiveness, hallucinations, panic states. Fatigue and depression usually follow the central stimulation. Cardiovascular effects include arrhythmias, hypertension or hypotension and circulatory collapse. Gastrointestinal symptoms include nausea, vomiting, diarrhea, and abdominal cramps. Overdose of pharmacologically similar compounds has resulted in fatal poisoning, usually terminating in convulsions and coma. Management of acute Tenuate intoxication is largely symptomatic and includes lavage and sedation with a barbiturate. Experience with hemodialysis or peritoneal dialysis is inadequate to permit recommendation in this regard. Intravenous phenolamine (Regitine[®]) has been suggested on pharmacologic grounds for possible acute, severe hypertension, if this complicates Tenuate overdosage.

Product Information as of April, 1976

MERRELL-NATIONAL LABORATORIES, Inc.
Cayey, Puerto Rico 00633

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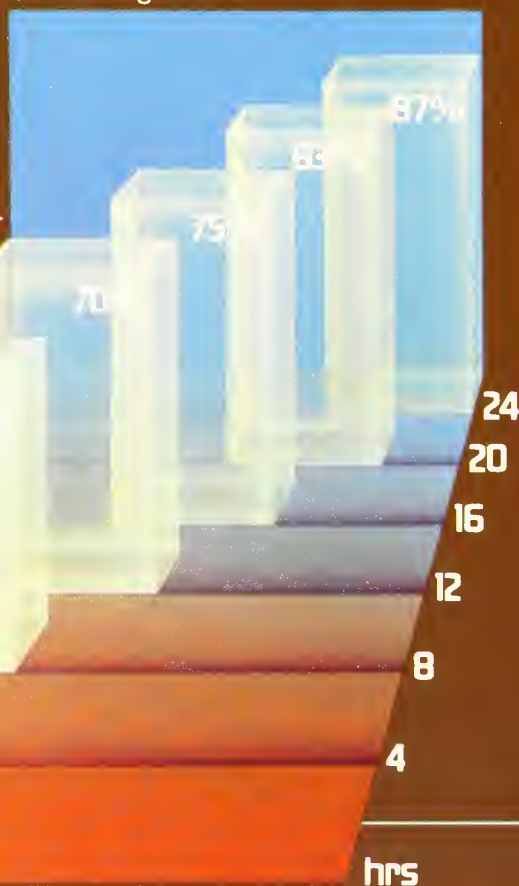


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the pathogens

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Indications: In adults, urinary tract infections complicated by pain (primarily pyelonephritis, pyelitis and cystitis) due to susceptible organisms (usually *E. coli*, *Klebsiella-Aerobacter*, *Staphylococcus aureus*, *Proteus mirabilis*, and, less frequently, *Proteus vulgaris*) in the absence of obstructive uropathy or foreign bodies. **Note:** Fully coordinate *in vitro* sulfonamide sensitivity tests with bacteriologic and clinical response; aminobenzoic acid to follow-up culture media; increasing frequency of resistant organisms; the usefulness of antibacterials including sulfonamides. Measure sulfonamide blood levels; variations may occur; 20 mg/100 ml should be maximum total level.

Contraindications: Children below age 12; sulfonamide hypersensitivity; pregnancy at term during nursing period; because Azo Gantanol contains phenazopyridine hydrochloride it is contraindicated in glomerulonephritis, severe hepatic uremia, and pyelonephritis of pregnancy with disturbances.

Warnings: Safety during pregnancy not established. Deaths from hypersensitivity reactions, agranulocytosis, aplastic anemia and other blood dyscrasias have been reported and early clinical signs (fever, throat, fever, pallor, purpura or jaundice) may indicate serious blood disorders. Frequent CBC and urinalysis with microscopic examination are recommended during sulfonamide therapy.

Precautions: Use cautiously in patients with impaired renal or hepatic function, severe allergic bronchial asthma; in glucose-6-phosphate dehydrogenase-deficient individuals in whom dose-related hemolysis may occur. Maintain adequate fluid intake to prevent crystalluria and stone formation.

Adverse Reactions: *Blood dyscrasias* (agranulocytosis, aplastic anemia, thrombocytopenia, leukopenia, hemolytic anemia, purpura, hypoprothrombinemia and methemoglobinemia); *allergic reactions* (erythema multiforme, skin eruptions, Stevens-Johnson syndrome, epidermal necrolysis, urticaria, serum sickness, pruritus, exfoliative dermatitis, anaphylactoid reactions, periorbital edema, conjunctival and scleral injection, sensitization, arthralgia and allergic myositis); *G.I. reactions* (nausea, emesis, abdominal pain, hepatitis, diarrhea, anorexia, pancreatitis and stomatitis); *CNS reactions* (headache, peripheral neuritis, mental depression, convulsions, hallucinations, tinnitus, vertigo and insomnia); *miscellaneous reactions* (drug fever, chills, nephrosis with oliguria and anuria, periarteritis nodosa and L. E. phenomenon). Due to chemical similarities with some goitrogens, uretics (acetazolamide, thiazides) and oral hypoglycemic agents, sulfonamides have caused instances of goiter production, diuresis and glycemia. Cross-sensitivity with these agents exist.

Dosage: Azo Gantanol is intended for the painful phase of urinary tract infections. **Usual adult dosage:** 2 Gm (4 tabs) initially, then 1 Gm (2 tabs) B.I.D. for up to 3 days. If pain persists causes other than infection should be sought. After relief of pain has been obtained, continued treatment with Gantanol (sulfamethoxazole) may be considered.

NOTE: Patients should be told that the phenazopyridine dye (phenazopyridine HCl) will color the urine. **Supplied:** Tablets, red, film-coated, each containing 0.5 Gm sulfamethoxazole and 100 mg phenazopyridine HCl—bottles of 100 and 500.

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The Team Physician, Trainer, Instructor, Coach, and the Law

Good Medical Judgment And Adequate Malpractice Insurance Are Important Components Of Protection

A. A. Savastano, MD

In this lawsuit-conscious age suits claiming negligence against school officials, coaches, trainers, and physicians have become a reality and are on the increase. Recently it was noted in the press that a professional football player had received a settlement of approximately \$600,000 from his team as a result of a suit in which he is said to have claimed that the care that he had received from the doctors and trainers of the team prematurely ended his athletic career. A settlement of this magnitude will probably result in additional claims against college and professional teams as well as team physicians, coaches, and trainers. Physicians serving in this capacity would do well to take every precaution to avoid involvement as defendants in tort liability cases. It is of great importance that institutions of learning, physicians, coaches, and trainers be protected by an adequate comprehensive insurance program. Proper and adequate insurance, of course, does not relieve them of their legal responsibilities. The law has

provided for actionable negligence to be broken down into certain definable components, including duty to act, breach of said duty, approximate cause, and the actual damages or injuries.

The concepts expressed in the following paragraphs should be thoroughly understood by physicians responsible for the medical supervision and treatment of athletes.

A careful pre-season medical evaluation has become an integral part of an athlete's preparation for participation in sports. The principal objective of the evaluation is to furnish each athlete with the medical guidance best suited to his special desires and capabilities. Health guidance should not cease with the pre-season medical evaluation, but should continue throughout the season. Medical services for all athletic contests where injuries may be anticipated should be an important part of the athletic program of a school or college. Physicians should have the privilege of handling injuries on-site under desirable conditions. Emergency medical care should be provided at practice sessions when a physician is not in attendance, and procedures and policies should be established to provide the best medical protection for the athletes under all conditions. Colleges and universities in most cases have no problem maintaining adequate medical supervision by drawing from student health services or from consultants. High schools on the other hand as a rule do not

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enjoy the luxury in medical services that colleges and universities enjoy. Consequently, arrangements must be made with private physicians. Secondary schools in most cases procure medical coverage by seeking the help of local medical societies.

What Is A Team Physician?

The Committee on the Medical Aspect of Sports of the American Medical Association states that "the title TEAM PHYSICIAN denotes a physician who is vested by the school with authority to make medical judgments relating to the participation and supervision of students in school sports. Without such a categorical designation of responsibility, there cannot exist the continuing medical assistance that the athlete deserves."

The Committee further states: "Having accepted the responsibility of acting in behalf of the school, the team physician faces a dual responsibility of ensuring: (1) That the athlete is not deprived unnecessarily of the opportunity to participate if an injury or other clinical condition is not potentially serious and does not interfere with the player's performance; and conversely (2) That the student's future in athletics and in life is not jeopardized by unwarranted eligibility for a particular sport or by premature return to competition in any sport after injury or illness."

The team physician must have the full and complete final say in decisions pertaining to medical eligibility for athletic participation. He must have authority to obtain consultations as necessary.

Why Is Pre-Participation Medical Evaluation Necessary?

There are many reasons why this is of utmost importance, chief among which are the following: (1) to determine the health status of prospective athletes prior to their being exposed to participation in competition, (2) to promote optimum health and fitness, (3) to recommend or arrange for further evaluation and treatment of remediable problems, (4) to advise atypical candidates as to sports which for them would provide suitable activity, and (5) to restrict from participation those whose physical limitations present undue risk.

Health examinations of prospective athletes may be divided in several ways. The prospec-

tive athlete may be examined by the family physician on an individual basis, or he or she can be examined by the school or team physician, if one is available. Where these are not available, arrangements can be made with local medical societies. In order to allow for consultations and treatment if abnormalities are found, the medical evaluation should not be for a specific sport, but for all sports available in the specific community or school. It is to be remembered that not all sports are contact sports. It may be proper for an athlete to engage in one sport, but not in another.

There has been much comment regarding the team physician and possible or probable legal implications in his work. Physicians should be cautioned to avoid giving any guarantee that it would be safe for a candidate to participate in a given sport. In addition, the physician should not undertake medical treatment without the parents' prior consent, express or implied, except for first aid or emergency care which is reasonably necessary to save life or limb. Beyond these considerations, if the physician conforms to the standards of good medical practice in his community there is no reason why medical supervision of any athletic team entails risks of legal liability any greater than those in any other field of medical practice.

A joint statement on the legal liability of team physicians in January 1966 by the Law Department and the Committee on the Medical Aspect of Sports of the American Medical Association reads as follows: "There appears to be no reason why the risk of legal liability for a physician who undertakes the medical supervision and care of members of a school athletic team should be any different from that of a physician in any other branch of practice. In fact, careful examination of reported court decisions and a survey of attorneys for the state medical societies has disclosed very few suits arising out of the medical supervision of school athletic teams or the treatment of injured student athletes at the scene of the injury. Likewise, no record has been found of other cases in which a physician has been sued because of emergency medical care given at the scene of any accident.

"A team physician should conform to the standards of good medical practice in his community. If he undertakes to determine the fitness of a team member to participate in

athletic activities, he should be careful not to give any guarantee or assurances that it will be safe for the team member so to participate. It is better for him to state that there appears to be no medical reason why this boy should not participate. Institutions sponsoring athletic teams are urged to require prior written approval from the parents of a minor, or the player himself if he has obtained his majority, for necessary emergency treatment by the team physician as need may arise. Such a practice, it is felt, would make it clear that the team physician was carrying out an appropriate function in providing emergency treatment on the field or in the training room."

Releases and Waivers

Some college team physicians in their pre-season medical examinations occasionally find certain physical defects which normally should be disqualifying; however, in these situations the college team physician is told that the athlete has been participating in practically all sports since grade school. In these situations the coach, the athlete, or even the parents may not be able to understand why the physician considers such defects disqualifying. The parents, therefore, offer to sign a release. The defects of this sort most commonly found include loss of a paired organ, history of convulsive disorders, repeated episodes of concussion of the brain, and certain joint or musculoskeletal problems. Since most athletes are minors, the physician may ask:

1. Is a statement signed by the parents to relinquish any future claims against the individual coach, trainer, or physician of any value?
2. What is the liability of the physician if he does not qualify the athlete to participate, but does nothing to prevent the school department from allowing the athlete to compete?

Generally speaking, the parent has no authority to release future claims on behalf of the child. It is to be remembered that the statute of limitations does not begin until the child has become of age. The same thing may be said regarding a release by the minor himself or herself. It is recommended that, when the team physician deems an individual unfit to participate in any given sport or sports, he should in writing inform the

parents, the athlete, and the school or college as to his findings. If the physician finds that contrary to his recommendations the boy or girl is participating in sports, he will do well to write again stating his objections to continued participation.

The National Safety Council reports that 67 per cent of all school jurisdiction accidents involving boys and 59 per cent involving girls occur in physical education and recreation.

What Is Negligence?

Negligence is failure to act as a prudent physician would under the same circumstances. Negligence can consist of inaction as well as action. If one fails to do something expected of him by the law, he can be deemed negligent. Likewise, doing something contrary to what the law expects can also be considered negligence. The mere fact of an accident does not imply that the physician is liable, no matter how serious the injury is. If there is no negligence, there is no liability. However, if an injury is sustained by an athlete because of the physician's negligence, the physician may be liable for it.

Defenses Through Negligence — Contributory Negligence

One of the common defenses against claims is that the athlete participating either knew or should have known the inherent dangers or the risk involved when participating in any given athletic event. This defense most commonly is brought out in cases of injuries occurring in such sports as football, hockey, and wrestling.

Another rather important defense point brought out by defendant's attorney is that of contributory negligence on the part of the participant. In this type of a defense the attorney elicits the information that the participant was aware of the risks involved or was negligent in not wearing the proper equipment which had been issued to him or her.

Routine and Informed Consent

It is not enough to obtain routine consent for any type of surgical procedure, rather one will do well nowadays also to obtain written informed consent. The doctrine of informed consent was best spelled out by Justice Benjamin Cardozo in the *Schloendorff vs New York Hospital* case, (211 *New York*, 125

[1914]), in which the Judge said: "Every human being of adult years and sound mind has the right to determine what shall be done with his own body; and a surgeon who performs an operation without the patient's consent commits an assault for which he is liable for damages." This is true except in cases of emergency where the patient is unconscious and where it is necessary to operate before the consent can be obtained.

In this connection, if the doctor has failed to obtain consent, a case may be brought against him for assault and battery as well as for malpractice.

Prior to surgical intervention it is best to inform the patient in ordinary language concerning the nature of the procedure and the risks involved, together with the options of other forms of treatment.

Case Example Of Negligence

Welch vs Dunsmuir Joint Union High School District, 326, P 2d, 633 (Calif 1958)

During a pre-season high school football scrimmage, the plaintiff, the quarterback of one of the teams, attempted a "quarterback sneak." After being tackled, the plaintiff continued to lie on his back. The coach of the high school, suspecting that the plaintiff might have suffered an injury to the neck, had him take hold of his hands to determine if he were able to grip, which he was able to do at the time.

The player was now carried off the field by eight other players, allegedly without anyone ordering the moving. There was conflicting testimony as to whether or not a doctor, who was admittedly present, examined the plaintiff before he was moved to the sidelines. The only undisputed medical testimony was that the plaintiff is a permanent quadriplegic—caused by damage to the spinal cord in his neck. It was the medical witness's opinion that the injury to the spinal cord took place during the removal of the player from the field without the use of a stretcher. Medical testimony was elicited to the effect that the failure to use a stretcher was improper medical practice. It was also pointed out by the medical witness that the player's ability to grip things with his hands while on the field was proof that the damage had not been done by the tackle, but had occurred afterwards.

The court opined that the evidence indicated that both the doctor and the coach were

negligent in the removal of the plaintiff from the field to the sidelines—the coach for failing to wait for the doctor and allowing the plaintiff to be moved, and the doctor for failing to act promptly after the plaintiff's injury.

Judgement: \$206,804.00 plus interest and costs

Duties of Instructor

Before an instructor is charged with the teaching of proper techniques for participation in any given sport the instructor must clearly inform the participants of the dangers and risks involved in the sport. In the case of *LaValley vs Stamford, (70 NYS 2nd 460 [1947])* the court ruled against the instructor. In this case two boys who had received no instruction or warning were given boxing gloves and told to box three rounds. In the second round one of the boys received a heavy blow to the temple which resulted in a cerebral hemorrhage. The court ruled that the "pupils should be warned before being permitted to engage in a dangerous and hazardous activity and should be taught the principles of defense."

On the other hand, in a case in which a 15-year-old high school freshman suffered a broken neck with a resulting paraplegia when he was tackled in a high school football game, it was alleged that the boy was insufficiently instructed and trained to engage in tackle football. In this case (*Vendrell vs School District No. 26C, Malheur County 360 P 2nd. 282 [1961]*) the court ruled that the boy had been adequately instructed in such techniques as tackling, stiff-arming, and blocking and therefore had prior experience in the game. The court found in favor of the defending coach.

Mismatching of Contestants

It has been reported that in Oregon in 1961 an inexperienced uncoordinated 15-year-old 140-pound high school male freshman was allowed to engage in an interschool football game against a superior team of large experienced boys. This boy allegedly had not received proper instruction and had his neck broken. The court ruled that a coach is negligent and fails to take reasonable care of his players when he permits such students to play without proper or adequate instruction.

This case raises several interesting points. The problem of mismatching contestants can become a serious one. In New York a court found negligence because of mismatching of heights and weights in a supervised soccer game. One student was kicked in the head, and another suffered a serious injury. On the other hand there was no negligence in another New York case where a student was injured in wrestling, which was part of the physical education course. Here the activity was under the supervision of a competent person, who had approved the voluntary matching of two boys after comparison of weights and after watching them wrestle together. A California court saw no negligence where seventh and eighth grade teams played touch football and participants had been selected according to skill, had been properly instructed, and were experienced.

It must be remembered that educational institutions and persons connected with school sports programs become subject to legal liabilities under certain circumstances for injuries occurring during sports participation. This liability in general is established through a doctrine termed in legal language "tort liability". This is the type of liability for personal injuries allegedly caused through a defendant's negligence. According to James S. Fewrig, MD: "In order to succeed, any such action in tort involves the proof of four essential elements, namely,

1. That the defendant owes a duty to avoid unreasonable risks to others.
2. That the defendant fails to observe that duty.
3. That the failure to observe the duty causes the damage which occurred.
4. That damage did in fact occur to the plaintiff and that the nature and probable extent of the damage are established proofs."

It has become the trend of the times to expand the limits within which tort liability is applied and also to increase the size of tort awards. It is also obvious that the tort case has become a reality in the realm of sports and that these cases are increasing in frequency.

Suits claiming negligence against team physicians, coaches, trainers, and school officials have increased to a marked degree. Doctors serving as team physicians may find themselves

involved in legal action in one of two ways, either through tort liability or through direct malpractice suits. Tort cases may involve specifically educational institutions or include a number of defendants.

The team physician is usually involved either as a co-defendant or in a direct malpractice action. In nearly all cases the plaintiff will argue that responsibility for the diagnosis and the treatment of sports injuries should not be the responsibility of coaches and trainers, but should be that of a physician. It is because of this premise that the team physician usually is the major defendant in practically all litigation cases. Regardless of the type of legal action instituted, either tort liability or malpractice, the principal charge against which the team physician will have to defend is that of negligence on his part. The injuries in these cases usually maintain that a patient-doctor relationship exists between the team physician and the members of the teams under his care. Many physicians serve gratis as "team doctors"; however, it becomes immaterial whether diagnosis or therapy is performed for a fee or gratis. Courts do not differentiate between charity and fee cases. There is an erroneous concept that team physicians who are employed by a state-owned educational institution are immune to suit. It generally obtains that one cannot sue the state unless the state accepts the suit. Regardless of the position of the state in such matters, the physician enjoys absolutely no immunity from lawsuit even when in the employ of the state.

It is important to be aware of the fact that the statute of limitations, which varies in duration in the several states, is no safeguard against action by a minor. He is enabled to withhold a suit for negligence until he reaches maturity, and this in spite of the fact that in ordinary cases the statute of limitations is extended to two years from the date of the discovery of the alleged wrong act. Although a trainer may appear to have been responsible for the negligence, juries generally regard trainers as agents of the team physicians, and negligence on their part is very often imputed to the physician.

Feurig states that factors similar to those encountered in private practice bear upon liability problems arising from injuries sustained in sports, failure to follow standard procedures and established methods in the treatment of injuries. The team physician should always

conduct himself professionally just as if he were engaged in private practice. Liability suits can arise from many and varied types of negligence charges. Some of these accusations which seem almost petty can nevertheless be the basis for an award.

Among situations which can be causes of action are the following: (1) failure to recognize an injury; (2) certification of a participant with known limitations for a sport; (3) premature termination of treatment; (4) failure to followup a case which is under treatment, as this may be construed as abandonment of treatment (When athletes terminate treatment before they are medically discharged, it would be wise for the physician to make a serious attempt to get these men to resume treatment); (5) failure to refer for consultation to qualified specialists; (6) failure to explain preoperatively to both the parents and the injured any surgical procedures anticipated and the possible end results of this surgery; (7) promises or guarantees of full, excellent, or good recovery for any specific case; (8) inadequate recovery in a case in which a new treatment has been tried without explaining same to patients or parents; (9) failure to obtain x-ray studies of an area of trauma; (10) failure to check a cast after its application for abnormal constriction or compression; (11) failure to administer antitetanus drugs when indicated; (12) failure to administer antibiotics when indicated; and (13) failure to elicit allergic history before prescribing medication.

Insurance

It is wise to be covered by high limit malpractice insurance. The cost of not having such coverage actually far exceeds the high price paid over the entire period of time that you are in practice. If the limits are under \$1,000,000, one is for all practical purposes *Uninsured*.

If a situation arises in which a team physician is concerned that a malpractice suit is a possibility, he should inform his insurance carrier. The companies that write the majority of malpractice insurance policies have large and skilled staffs which specialize in these problems. Their prompt action can often prevent claims from developing into lawsuits. If a suit does develop, the more the insurance carrier and its chosen defense counsel know

about the background of the situation, the better one's chances of winning.

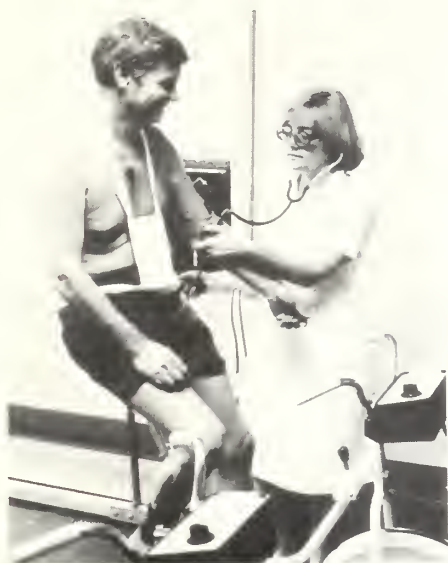
Conclusions

In order to reduce the incidence of tort malpractice claims, it is well for team physicians to use good medical judgment, follow and control all sports injury cases, keep good medical records, be in complete control of injury cases, have good working relationships with trainers, keep parents of injured athletes well informed, never promise complete cures, and allow no one to pressure him to permit a boy or girl to play when he or she has not fully recovered from an injury. Finally, a team physician should always be covered by adequate malpractice insurance, either institutional or individual, or both.

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Microvascular Surgical Anastomosis for Cerebral Ischemia

Certain Forms Of Occlusive Cerebrovascular Disease Can Be Successfully Treated By Extracranial-Intracranial Bypass

By Norman D. Peters, MD

In the past several years a number of papers have described preliminary indications and early results of superficial temporal artery to middle cerebral artery (STA-MCA) bypass operations designed to augment surgically the collateral blood supply to ischemic areas of the brain in patients with occlusive cerebrovascular disease.¹⁻¹¹ This paper deals with patients whose symptoms are thought to be due to hemodynamic insufficiency as opposed to embolic episodes. The initial results in most series have been promising. At the present time an international cooperative study is being undertaken to evaluate the efficacy of this operation. The surgical approach itself was originally developed by Yasargil and Donaghy eleven years ago,^{1,12,13} and involves the microsurgical anastomosis of the superficial temporal branch of the external carotid artery to a cortical branch of the middle cerebral artery on the surface of the brain.

It is recognized that stroke is a leading cause of death and disability in the United States¹⁴ and is third in frequency after heart disease and cancer as a cause of suffering. Approxi-

mately 450,000 new strokes occur yearly,¹⁵ of which 80 per cent are due to occlusive cerebral vascular disease.¹⁶ It is estimated that some two and a half million people in America are presently disabled and unemployable as a result of this disease process.¹⁷ The majority of individuals are under 65 years of age and are in the so-called preretirement or productive years.¹⁸ Rehabilitation may be unrewarding in one-half of the cases of "completed stroke", and the cost (in loss of human productivity) has been estimated at several billion dollars yearly.¹⁷ The devastating extent of the problem is obvious. Stroke, therefore, is the primary neurologic health problem in the United States today.

Patients who have developed transient ischemic attacks (TIAs) have a 20-35 per cent chance of developing a completed stroke within four years.¹⁹ The primary objective of stroke therapy is to prevent such a disaster and to improve the quality of life.

In a series of 100 consecutive patients in England who presented with TIAs or with a completed stroke with minimal deficit, 33 per cent of those studied by cerebral arteriography demonstrated significant obstructive lesions classified as "inaccessible or inoperable" by general vascular techniques.²⁰ In the National Cooperative Study on extracranial arterial occlusive disease, arteriographic evidence revealed that 6 per cent of the patients studied had purely inaccessible lesions in the cerebral

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CASE	AGE/SEX	LESION	PROCEDURE	ANGIOGRAPHIC PATENCY	DOPPLER PATENCY	rCBF Pre-OP/Post-OP
1	57/Male	CCS (L)	(L) STA-MCA	+	+	30 / 60
2	60/Male	BICAO	(L) STA-MCA	+	+	35 / 55
3	60/Female	ICAO (L)	(L) STA-MCA (L) OA-Vein-MCA	+	+	30 / 60
4	48/Male	CCS (R)	(R) STA-MCA	+	+	35 / 60
5	45/Male	MCS (R)	(R) STA-MCA	+	+	45 / 60
6	55/Female	CCS (R)	(R) STA-MCA	+	+	— —
7	67/Male	ICAO (L)	(L) STA-MCA	+	+	— —
8	47/Male	BICAO	(R) STA-MCA (L) STA-MCA	+	+	— —

CCS = Cavernous Carotid Stenosis

ICAO = Internal Carotid Artery Occlusion

BICAO = Bilateral Internal Carotid Artery Occlusion

MCAS = Middle Cerebral Artery Stenosis

rCBF = region Cerebral Blood Flow (ml/100mg brain wt/min) — Average values of low perfusion region — Pre-Op and Post-Op

OA = Occipital artery

Doppler = Medsonic Doppler Ultrasound

STA-MCA = Superficial temporal artery to middle cerebral artery Bypass

Table 1. Analysis of ten STA-MCA bypass procedures of patients selected as of January, 1979.

vasculature.²¹ An additional 16 per cent of the patients studied for cerebrovascular symptoms were shown to have long-standing complete internal carotid occlusion, which at the present time is considered inoperable because of the low success rate in reopening such vessels.²² Thus, approximately 20 per cent of patients studied by cerebral arteriography may demonstrate inoperable or inaccessible lesions by present conventional surgical techniques. This amounts potentially to around 15,000 individuals per year presenting with transient ischemic attacks without permanent neurological deficit who may have lesions that are inaccessible to routine vascular surgical procedures.

Indications

The present indications for the STA-MCA procedure include 1. lateralized low perfusion syndromes and 2. generalized low perfusion syndromes.

1. Lateralized Low Perfusion Syndromes.

The symptoms depend upon the vessel involved and the functional collateral supply available to a specific region of the brain. They may be transient or permanent. The

types of etiology include (a) internal carotid occlusions with poor collaterals; (b) cavernous carotid stenosis with poor collaterals (atherosclerotic, extrinsic tumor, eg sphenoid wing meningioma, and aneurysm clipping with postoperative narrowing of the parent vessel); (c) middle cerebral stenosis with poor collaterals (atherosclerotic, extrinsic tumor, eg sphenoid wing meningioma, and aneurysm clipping with postoperative narrowing of the parent vessel); (d) middle cerebral occlusions with mild deficit, absent recanalization, and poor collaterals; (e) vertebral basilar lesions with poor collaterals; and (f) giant intracranial aneurysms inoperable due to poor collaterals.

2. Generalized Low Perfusion Syndrome.

There is a smaller group of patients who suffer from a generalized ischemic cerebrovascular process due to multiple large vessel occlusive disease. These individuals may complain of symptoms such as dizziness, incoordination, blurred vision, syncope, and dementia.

Discussion

This paper presents the results of microvascular cerebral revascularization in a total of 8

patients with 10 bypass procedures performed. To date we have had no mortality or morbidity. By objective evaluation of the postoperative patency with Doppler ultrasound and cerebral angiography a patency rate of 100 per cent has been achieved. These results are in keeping with those reported elsewhere and are certainly encouraging in cases presenting with TIA who have hemodynamic lesions previously considered inaccessible or inoperable. The results of an operation for revascularization may be difficult to evaluate objectively. However, among the best indicators are the long-term regression of frequency of TIAs and return of patients to a normal life style. The evidence to date is supportive of the collateral augmentation procedure as a means of dealing with certain forms of cerebrovascular occlusive disease.

Case Report

The patient is a 47 year old right-handed white male dentist who is known to have diffuse arteriosclerotic disease including Leriche's syndrome.

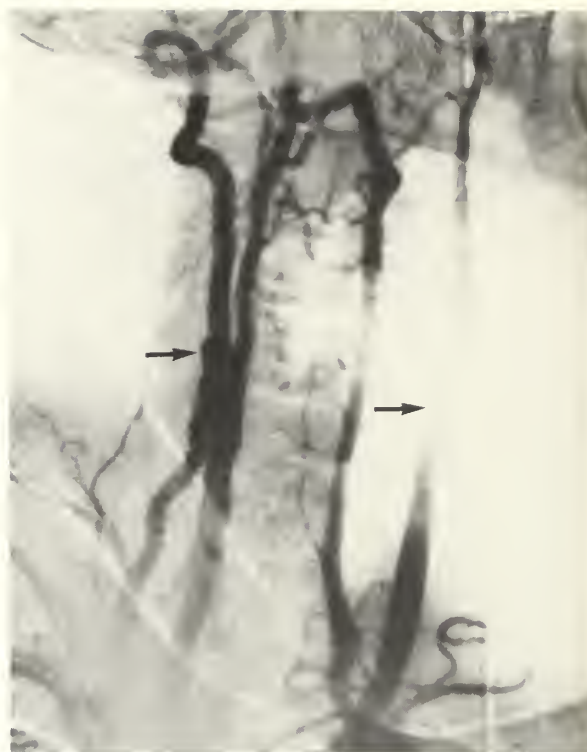


Figure 1. Arch study showing bilateral internal carotid artery occlusions (arrows).



Figure 2. Selective right external carotid angiogram. Open arrows delineate superficial temporal artery. Small closed arrow points to site of anastomosis. Filling of right hemisphere vessels is observed.

One month prior to surgical revascularization he suffered a mild completed stroke consisting of left hemiparesis with predominant weakness in the face and arm. He had marked deficits in tactile discrimination of the left hand with fairly marked loss of cortical sensory modalities. He was also noted to have a certain element of dementia and inappropriate speech and behavior. Computerized tomographic scan revealed no evidence of cerebral infarction. Cerebral angiography revealed bilateral internal artery occlusion (Figure 1). Minimal collateral supply was attained via the vertebral basilar system. The patient improved somewhat, but was not relieved of his major neurologic deficit and indeed continued to have transient spells of numbness and tingling of the left arm. Bilateral STA-MCA bypasses were performed.

Figure 2 shows a patent right-sided STA-MCA bypass with good filling of the cortical middle cerebral branches, and Figure 3 reveals the patent left-sided bypass.

Clinically, the patient improved dramati-

cally after both operations and has returned to gainful employment.

Summary

The present status of extracranial-intracranial bypass for certain forms of occlusive cerebrovascular disease is discussed. A total of ten bypass procedures performed on eight patients by one surgeon are reported. The results to date are very encouraging in cases of transient ischemic attacks due to lesions of the cerebral vasculature that were previously considered inoperable or inaccessible. The morbidity rate is acceptable, and thus far there has been no operative mortality.

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Figure 3. Early phase of selective left external carotid angiogram. Open arrows delineate superficial temporal artery. Closed small arrow marks site of anastomosis with early filling of cortical vasculature.

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References:

1. Meyer, C.: American Folk Medicine. Scarborough, New York, Plum Books — New American Library, 1975, p. 208.
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4. prophylactic treatment to prevent tissue urate deposition, renal calculi, or uric acid nephropathy in patients with leukemias, lymphomas and malignancies who are receiving cancer chemotherapy with its resultant elevating effect on serum uric acid levels.

CONTRAINDICATIONS: Use in children with the exception of those with hyperuricemia secondary to malignancy. The drug should not be employed in nursing mothers.

Patients who have developed a severe reaction to Zyloprim should not be restarted on the drug.

WARNINGS: ZYLOPRIM SHOULD BE DISCONTINUED AT THE FIRST APPEARANCE OF SKIN RASH OR ANY SIGN OF ADVERSE REACTION. In some instances a skin rash may be followed by more severe hypersensitivity reactions such as exfoliative, urticarial and purpuric lesions as well as Stevens-Johnson syndrome (erythema multiforme) and very rarely a generalized vasculitis which may lead to irreversible hepatotoxicity and death.

A few cases of reversible clinical hepatotoxicity have been noted and in some patients asymptomatic rises in serum alkaline phosphatase or serum transaminase have been observed. Accordingly, periodic liver function tests should be performed during the early stages of therapy, particularly in patients with pre-existing liver disease. Patients should be alerted to the need for due precautions when engaging in activities where alertness is mandatory.

Nevertheless, iron salts should not be given simultaneously with Zyloprim. This drug should not be administered to immediate relatives of patients with idiopathic hemochromatosis.

In patients receiving Purinethol[®] (mercaptopurine) or Imuran[®] (azathioprine), the concomitant administration of 300-600 mg of Zyloprim per day will require a reduction in dose to approximately one-third to one-fourth of the usual dose of mercaptopurine or azathioprine. Subsequent adjustment of doses of Purinethol or Imuran should be made on the basis of therapeutic response and any toxic effects.

Usage in Pregnancy and Women of Childbearing Age Zyloprim[®] (allopurinol) should be used in pregnant women or women of childbearing age only if the potential benefits to the patient are weighed against the possible risk to the fetus.

PRECAUTIONS: Some investigators have reported an increase in acute attacks of gout during the early stages of allopurinol administration, even when normal or sub-normal serum uric acid levels have been attained.

It has been reported that allopurinol prolongs the half-life of the anticoagulant, dicumarol. This interaction should be kept in mind when allopurinol is given to patients already on anticoagulant therapy, and the coagulation time should be reassessed.

A fluid intake sufficient to yield a daily urinary output of at least 2 liters and the maintenance of a neutral or, preferably, slightly alkaline urine are desirable to (1) avoid the theoretic possibility of formation of xanthine calculi under the influence of Zyloprim therapy and (2) help prevent renal precipitation of urates in patients receiving concomitant uricosuric agents.

Patients with impaired renal function require less drug and should be carefully observed during the early stages of Zyloprim administration and the drug withdrawn if increased abnormalities in renal function appear.

In patients with severely impaired renal function, or decreased urate clearance, the half-life of oxipurinol in the plasma is greatly prolonged. Therefore, a dose of 100 mg per day or 300 mg twice a week, or perhaps less, may be sufficient to maintain adequate xanthine oxidase inhibition to reduce serum urate levels. Such patients should be treated with the lowest effective dose, in order to minimize side effects.

Mild reticulocytosis has appeared in some patients.

As with all new agents, periodic determination of liver and kidney function and complete blood counts should be performed especially during the first few months of therapy.

ADVERSE REACTIONS:

Dermatologic. Because in some instances skin rash has been followed by severe hypersensitivity reactions, it is recommended that therapy be discontinued at the first sign of rash or other adverse reaction (see WARNINGS). Skin rash, usually maculopapular, is the adverse reaction most commonly reported.

Exfoliative, urticarial and purpuric lesions, Stevens-Johnson syndrome (erythema multiforme) and toxic epidermal necrolysis have also been reported.

A few cases of alopecia with and without accompanying dermatitis have been reported.

In some patients with a rash, restarting Zyloprim (allopurinol) therapy at lower doses has been accomplished without untoward incident.

Gastrointestinal Nausea, vomiting, diarrhea, and intermittent abdominal pain have been reported.

Vascular There have been rare instances of a generalized hypersensitivity vasculitis or necrotizing angitis which have led to irreversible hepatotoxicity and death.

Hematopoietic Agranulocytosis, anemia, aplastic anemia, bone marrow depression, leukopenia, pancytopenia and thrombocytopenia have been reported in patients, most of whom received concomitant drugs with potential for causing these reactions. Zyloprim[®] (allopurinol) has been neither implicated nor excluded as a cause of these reactions.

Neurologic. There have been a few reports of peripheral neuritis occurring while patients were taking Zyloprim. Drowsiness has also been reported in a few patients.

Ophthalmic: There have been a few reports of cataracts found in patients receiving Zyloprim. It is not known if the cataracts predated the Zyloprim therapy. "Toxic" cataracts were reported in one patient who also received an anti-inflammatory agent; again, the time of onset is unknown. In a group of patients followed by Gutman and Yü for up to five years on Zyloprim therapy, no evidence of ophthalmologic effect attributable to Zyloprim was reported.

Drug Idiosyncrasy Symptoms suggestive of drug idiosyncrasy have been reported in a few patients. This was characterized by fever, chills, leukopenia or leukocytosis, eosinophilia, arthralgias, skin rash, pruritus, nausea and vomiting.

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Editorial

Microvascular Anastomosis For Cerebral Ischemia

Published elsewhere in this issue of the *Journal* is a paper by Peters describing a local experience with a promising technique for alleviating certain types of cerebral ischemia. This limited series appears to demonstrate the safety and efficacy of the operation in managing cases of transient ischemia attacks due to certain occlusive vascular lesions previously considered inoperable or inaccessible.

A much larger series has been reported from the Mayo Clinic by Kearns, Siekert, and Sundt, who over a six year period (1971-1977) performed the procedure 127 times on 121 patients, six having undergone bilateral bypass. While the main thrust of the paper has to do with the value of ophthalmodynamometry in identifying internal carotid artery occlusion, it is also interesting because of the significant number of cases of superficial temporal artery to middle cerebral artery bypass which it reports. Their patency rate has remained at 95 per cent. The increasing number of operations performed by them each year (58 in 1977) would reflect, they believe, the enthusiastic acceptance of this procedure by patients and physicians alike.

The apparent sustained efficacy of the operation in the face of a low morbidity and mortality would appear to recommend it for wider use.

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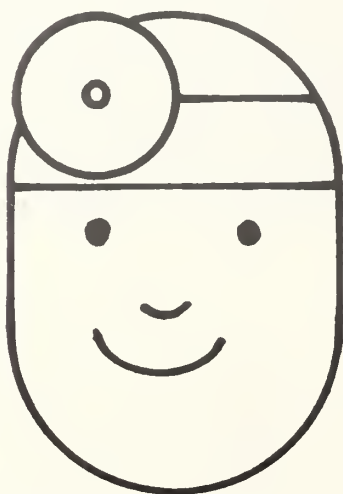
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Editor's Mailbox

Certificate-of-Need Licensure

To the Editor:

It would appear that in Hawaii and Rhode Island state health planning agencies seek to impose certificate-of-need licensure based on predetermined estimates of the number of physicians required. In California and New York health planners are working to limit the number of physicians by regulating residency training. If the government and public want this, will they carry the responsibility for consequences; how can they accept this fully, and will the physician be protected from scapegoating?

Control and rationing have shown here (and in Russia) their unreliability in predicting future needs. The risks of a free market and individual professional responsibility are most necessary in individual health care if quality rather than quantity come first. Over-protection is dangerous; it breeds unconscious hostility with all its unpredictability.

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Rhode Island Medical Journal

October, 1979

Vol. 62, No. 10

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Surgical Gastroenterology Symposium

Newsletter Enclosed

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Warnings: Warn patients that mental and/or physical abilities required for tasks such as driving or operating machinery may be impaired, as may be mental alertness in children, and that concomitant use with alcohol or CNS depressants may have an additive effect. Though physical and psychological dependence have rarely been reported on recommended doses, use caution in administering to addiction-prone individuals or those who might increase dosage; withdrawal symptoms (including convulsions), following discontinuation of the drug and similar to those seen with barbiturates, have been reported.

Usage in Pregnancy: Use of minor tranquilizers during first trimester should almost always be avoided because of increased risk of congenital malforma-

tions as suggested in several studies. Consider possibility of pregnancy when instituting therapy; advise patients to discuss therapy if they intend to or do become pregnant.

Precautions: In the elderly and debilitated, and in children over six, limit to smallest effective dosage (initially 10 mg or less per day) to preclude ataxia or oversedation, increasing gradually as needed and tolerated. Not recommended in children under six. Though generally not recommended, if combination therapy with other psychotropics seems indicated, carefully consider individual pharmacologic effects, particularly in use of potentiating drugs such as MAO inhibitors and phenothiazines. Observe usual precautions in presence of impaired renal or hepatic function. Paradoxical reactions (e.g., excitement, stimulation and acute rage) have been reported in psychiatric patients and hyperactive aggressive children. Employ usual precautions in treatment of anxiety states with evidence of impending depression; suicidal tendencies may be present and protective measures necessary. Variable effects on blood coagulation have been reported very rarely in patients receiving the drug and oral anticoagulants; causal relationship has not been established clinically.

Adverse Reactions: Drowsiness, ataxia and confusion may occur, especially in the elderly and debilitated. These are reversible in most instances by proper dosage adjustment, but are also occasionally observed at the lower dosage ranges. In a few instances syncope has been reported. Also encountered are isolated instances of skin eruptions, edema, minor menstrual irregularities, nausea and constipation, extrapyramidal symptoms, increased and decreased libido—all infrequent and generally controlled with dosage reduction; changes in EEG patterns (low-voltage fast activity) may appear during and after treatment; blood dyscrasias (including agranulocytosis), jaundice and hepatic dysfunction have been reported occasionally, making periodic blood counts and liver function tests advisable during protracted therapy.

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Rhode Island Medical Society

NEWSLETTER

James R. Clarkin, Editor

October, 1979

Report of the Sub-Committee on SHCC

The Committee's work in evaluating the Preliminary State Health System Plan is developing in several directions. Committee members singly and in groups of two or three are studying individual priorities of the Plan in terms of the statistical bases and the philosophical implications of these priorities. Also, a public statement on the Plan as a whole is in the process of formulation. The following paragraphs are extracted from this proposed public statement:

"While the Rhode Island Medical Society will support many of the proposals of the plan as well as supporting health planning in principle, it will examine with great care and exacting scrutiny, proposed implementation of all but the most obvious and least controversial items. Having been isolated from pre-planning procedures, having but little voice in SHCC, and considering a few minutes time at scattered public hearings as absurdly inadequate to express the concerns of the major professional component in health care delivery, the Medical Society has no choice but to present its concerns to the public, and to the legislature which represents the public. We have serious reservations concerning both the validity and the interpretation of some of the data on which the case for a radical change in health care delivery is based. We will challenge these data.

Being a part of a concentrated effort on the part of multiple segments of the health care system in Rhode Island to control costs, and having seen Rhode Island held up as a model to the country because increases in costs have been four to five per cent per year less than the US average, we are distressed that professional health planners pay no attention to effective voluntary efforts which have placed a "cap" on hospital costs and professional fees in Rhode Island. Instead, government controls are proposed as the only way."

Governor Garrahy recently complimented the cost containment effort in Rhode Island and said that we should be proud of what has been accomplished bluntly in savings to the state, to Medicare and Medicaid, and to insurance plan subscribers. HE NOTED THAT RHODE ISLAND VOLUNTARY COST CONTAINMENT EFFORT HAS ACHIEVED A RATE OF INFLATION WHICH IS ALREADY LOWER THAN ANTI-INFLATION GOALS WHICH ARE YET ONLY BEING DISCUSSED IN CONGRESS.

The schedule of public meetings to review the Preliminary State Health System Plan is as follows:

Woonsocket

Woonsocket High School

Wednesday, January 9, 1980

Providence

RI Department of Health Auditorium
Tuesday, January 8, 1980

Newport

Newport Council Room
Thursday, January 3, 1980

Westerly

Westerly High School
Wednesday, January 2, 1980

Warwick

Location to be announced
Thursday, January 10, 1980

We are looking for more physicians to join this Sub-Committee, to become informed, and to help with our continuing work, including representing our positions at the above public meetings.

Please contact me:

1180 Hope Street, Bristol, RI 02809, 253-8900.

Charles E. Millard, MD
Chairman

Personal Viewpoint . . .

. . . from Toussaint A. LeClercq, MD

At the present time in Rhode Island there is a widespread disorganization in the delivery of treatment for chronic pain. Although there have been many advances in pain therapy nationally, specialized treatments are often not available in the locale in which a patient begins his search for help. Thus, the chronic pain patient may be forced to go through a long and tedious search for treatment — from state to state — guided by hearsay. The failure ratio of such efforts as we all know is high.

In response to this problem I and a few of our mutual colleagues are presently developing plans for a pain center in our state which will combine the advantages of existing out-of-state pain facilities with some improvements for the patient.

I believe that a patient receiving treatment for chronic pain:

- 1) should be able to receive treatment for as long a period of time as needed (as contrasted with acute treatment, not needed for chronic pain);

- 2) should receive treatment in his natural environment; and

- 3) should be able to afford the treatment.

To realize these goals we need a pain facility organizationally structured to include several "Primary Intake Centers", all connected with a "Main Office". The "Primary Intake Centers" will do a history and neurological examination of the patient; review the pain

continued on next page

Personal Viewpoint (continued)

problem and initiate a chart; evaluate the patient as a candidate for a pain program; and provide the patient with information concerning the pain program's functioning, goals and projected costs. The "Main Office" will serve to coordinate for general care planning; provide facilities for neurophysiological and psychological evaluation; organize panel meetings as needed to review pain problems and outline a plan of care; notify local referring physicians of status, plan for treatment and modes of implementation; and direct patients to the appropriate specialist member of the consulting panel, who will report to the medical director of the facility.

Such a center is badly needed in our state. If interested in details on the project to date please contact me: 100 Dudley Street, Providence, RI 02905, 331-0300.

(Members are encouraged to submit personal viewpoints for this column to Editor, Rhode Island Medical Society Newsletter, 106 Francis Street, Providence, RI 02903.)

From the President:

For many different reasons there are several serious problems facing the medical profession, which require much more expertise than we can provide from our ranks. The average physician, busy in the practice of medicine, unfortunately will rarely recognize the hundreds of unpaid hours invested by the committee members and their chairmen — Charles Millard, Paul Metcalf, Peter Mathieu, George Cooper, Robert Coli, Louis Vito — who are now in the midst of work vital to try to continue the sensitivity of our profession to the needs of the community. The forces of economic restraint are unintentionally threatening the quality of medical care available to the patient. I do not mean to ignore the scores of our members who provide their time for the ongoing business of the Society.

All of this time and personal sacrifice is not adequate to keep our voice strong and knowledgeable in the arena of change. Our time to be heard is frighteningly short. We will be asking for more funds. Please recognize these are not frivolous requests. The continuing question, "What am I getting for all this money?", has no definite answer. You are receiving the best we can give. If you care to provide more than funds, please call Jim Clarkin, 331-3207.

Charles L. Hill, MD

Rates under the Rhode Island Medical Society Blue Cross/Blue Shield group plan are down in 1979-1980 in most family and individual categories. The single exception is for subscribers to "B" Blue Shield only.

Council Briefs

Meeting September 17, 1979 Charles L. Hill, MD, Presiding

- Voted the appointment of Dr. Frank W. Sullivan as a Trustee of the Benevolence Fund to complete the unexpired term of Dr. Meyer Saklad (1979) and begin a three year term as of January 1, 1980.

- Approved Dr. Hill's appointment of Milton W. Hamolsky, MD as a Trustee-at-Large to the Rhode Island Medical Society Library for a one year term beginning January 1, 1980.

- Approved the reappointment of Drs. Paul J. Metcalf, Jr. and Stanley D. Simon to the Board of Directors of Search.

- Voted to recommend to the House of Delegates the purchase of property owned by Helen Cooper at #9 & 11 Hayes Street, Providence, adjacent to the Rhode Island Medical Society building, at a price not to exceed \$100,000. The property was appraised by the Farnum and Hill Realty Company at \$100,000.

- Voted that the Rhode Island Thoracic Society be granted a representative in the House of Delegates with the provision that such representative must be a member of the Rhode Island Medical Society. The decision was a special exception to the criteria established for such recognition by the Ad Hoc Committee on New Specialty Societies.

- Heard a review of the activities of the Sub-Committee on SHCC by Charles E. Millard, MD, Chairman.

- Voted unanimous support for the recommendation of Dr. Melvin D. Hoffman to succeed Dr. D. Robert Fowler on the SHCC.

- Heard a report of Dr. Robert D. Coli, Chairman of the Committee on IPAs, outlining the advantages of the IPA system of medical care delivery. The Council voted that Dr. Coli present a report on the operation and formation of IPAs to the House of Delegates at its meeting October 10, 1979.

- Heard a report of Dr. Kenneth Liffmann on JUA developments, in which it was noted that American Universal Company had been retained and that the Old Stone Bank had been chosen to handle JUA financial and related activities.

- Appointed a committee, chaired by Dr. Melvyn M. Gelch, Treasurer, to review John Farrell's pension.

- Heard a report from Dr. John J. Cunningham, Delegate to the AMA House of Delegates, on the meeting of the House July 22-26, 1979.

- Dr. Hill requested from the Councillors the names of any members in the respective districts whom they considered worthy of consideration by the nominating committee for office in the Rhode Island Medical Society.

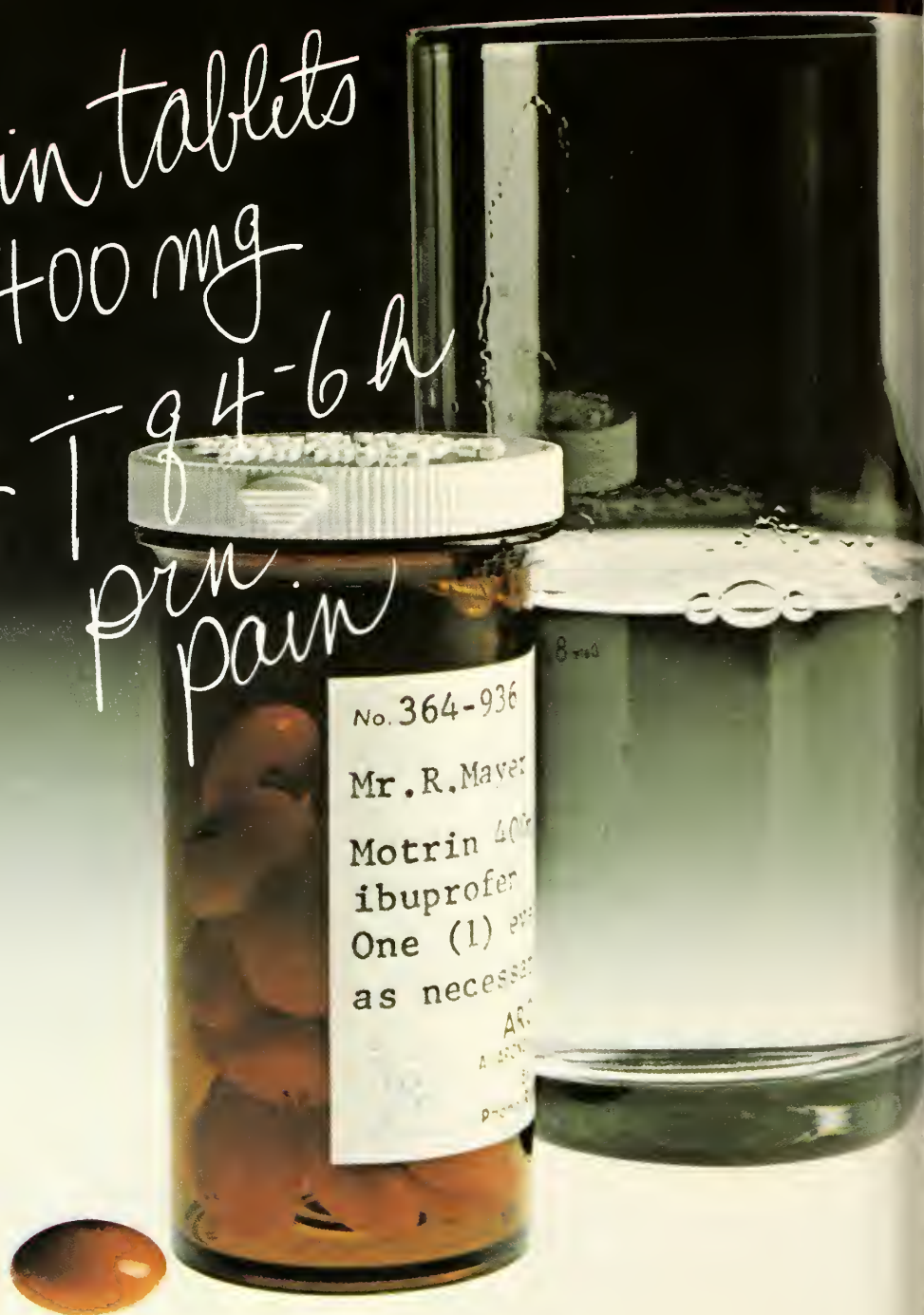
If you haven't sent in a check for \$20.00 requested under the assessment for a study of the feasibility of a physician owned insurance in Rhode Island, do so now. We have received considerable support for this undertaking already. Please join the effort.

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	Darvon 65 mg propoxyphene	.66 (100)	.99 (99)	1.13 (96)	.99 (96)	.80 (96)
Statistical significance		p<0.02	p<0.01	p<0.05	p<0.02	p<0.002

*0 = No relief 1 = Partial relief 2 = Complete relief

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Motrin demonstrated statistically significant greater relief of pain than did Darvon at all time intervals.

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Relief of mild to moderate pain.

Contraindications: Individuals hypersensitive to it, or with the syndrome of nasal polyps, angioedema and bronchospastic reactivity to aspirin or other nonsteroidal anti-inflammatory agents (see WARNINGS).

Warnings: Anaphylactoid reactions have occurred in patients with aspirin hypersensitivity (see CONTRAINDICATIONS).

Peptic ulceration and gastrointestinal bleeding, sometimes severe, have been reported. Ulceration, perforation, and bleeding may end fatally. An association has not been established. Motrin should be given under close supervision to patients with a history of upper gastrointestinal tract disease, only after consulting ADVERSE REACTIONS.

In patients with active peptic ulcer and active rheumatoid arthritis, nonulcerogenic drugs, such as gold, should be tried. If Motrin must be given, the patient should be under close supervision for signs of ulcer perforation or gastrointestinal bleeding.

Precautions: Blurred and/or diminished vision, scotomata, and/or changes in color vision have been reported. If these develop, discontinue Motrin and the patient should have an ophthalmologic examination, including central visual fields.

Fluid retention and edema have been associated with Motrin; use with caution in patients with a history of cardiac decompensation.

Motrin can inhibit platelet aggregation and prolong bleeding time. Use with caution in persons with intrinsic coagulation defects and those on anticoagulant therapy.

Patients should report signs or symptoms of gastrointestinal ulceration or bleeding, blurred vision or other eye symptoms, skin rash, weight gain, or edema.

To avoid exacerbation of disease or adrenal insufficiency, patients on prolonged corticosteroid therapy should have therapy tapered slowly when Motrin is added.

Drug interactions. Aspirin used concomitantly may decrease Motrin blood levels. Coumarin: Bleeding has been reported in patients taking Motrin and coumarin.

Pregnancy and nursing mothers: Motrin should not be taken during pregnancy or by nursing mothers.

Adverse Reactions

Incidence greater than 1%

Gastrointestinal: The most frequent type of adverse reaction occurring with Motrin is gastrointestinal (4% to 16%). This includes nausea,* epigastric pain,* heartburn,* diarrhea, abdominal distress, nausea and vomiting, indigestion, constipation, abdominal cramps or pain, fullness of the GI tract (bloating and flatulence). **Central Nervous System:** Dizziness,* headache, nervousness. **Dermatologic:** Rash* (including maculopapular type), pruritus. **Special Senses:** Tinnitus. **Metabolic:** Decreased appetite, edema, fluid retention. Fluid retention generally responds promptly to drug discontinuation (see PRECAUTIONS).

*Incidence 3% to 9%.

Incidence less than 1 in 100

Gastrointestinal: Upper GI ulcer with bleeding and/or perforation, hemorrhage, melena. **Central Nervous System:** Depression, insomnia. **Dermatologic:** Vesiculobullous eruptions, urticaria, erythema multiforme. **Cardiovascular:** Congestive heart failure in patients with marginal cardiac function, elevated blood pressure. **Special Senses:** Amblyopia (see PRECAUTIONS). **Hematologic:** Leukopenia, decreased hemoglobin and hematocrit.

Causal relationship unknown

Gastrointestinal: Hepatitis, jaundice, abnormal liver function. **Central Nervous System:** Paresthesias, hallucinations, dream abnormalities. **Dermatologic:** Alopecia, Stevens-Johnson syndrome. **Special Senses:** Conjunctivitis, diplopia, optic neuritis. **Hematologic:** Hemolytic anemia, thrombocytopenia, granulocytopenia, bleeding episodes. **Allergic:** Fever, serum sickness, lupus erythematosus syndrome. **Endocrine:** Gynecomastia, hypoglycemia. **Cardiovascular:** Arrhythmias. **Renal:** Decreased creatinine clearance, polyuria, azotemia.

Overdosage: In cases of acute overdosage, the stomach should be emptied. The drug is acidic and excreted in the urine, so alkaline diuresis may be beneficial.

Dosage and Administration: Rheumatoid and osteoarthritis, including flares of chronic disease: Suggested dosage is 300, 400 or 600 mg t.i.d. or q.i.d.

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MESSAGE FROM THE DEAN

The State Medical Journal and the Brown Medical School

On September 7-8 of this year, the *Rhode Island Medical Journal* was host to the yearly gathering of the state medical journals of the United States. The two-day session convened on Goat Island, Newport, and attracted representatives from 26 state medical journals who reviewed and explored the editorial, technical and fiscal concerns common to their publications. The meeting also provided the Brown Medical School with the opportunity to share its views regarding the means by which a school of medicine and a state medical journal might work harmoniously. The principal aims of a state medical journal, as viewed by this Medical School, were described as follows:

1. The leading purpose of a state medical journal should be to educate its readers, and in a curious way, its writers. However, I do not believe that this *Journal* should consciously aspire to replace either the national specialty journals or those publications (such as the *New England Journal of Medicine*) with more cosmopolitan constituencies. I believe, though, that the *Journal* should properly maintain an accessible forum for local authors, permitting them to share local observations with their peers. Some of these offerings may not always be as elegantly organized as those encountered in the national journals nor are they as likely to enter the realm of landmark references, but their educational impact is nevertheless considerable by virtue of their immediacy and local relevance.

2. The *Journal* should be a publication to discuss and record the continuing business of

the medical profession in Rhode Island and the effects of national events and legislation upon the profession.

3. The *Journal* should be so managed that the time between submission and publication of articles be sufficiently brief such that the described problems, concerns (and, indeed, solutions) may have contemporary impact rather than historic relevance.

4. The *Journal* should be an archive wherein we may establish benchmarks and record continuing observations on medically oriented local events of professional, epidemiologic, or social concern.

5. The *Journal* should provide a vehicle for the publication of local hospital or University orations, conferences, and professional symposia, particularly those which relate to the current medical problems of the Rhode Island community.

6. The *Journal* is a proper place to document the meaningful medical events of the past, to record our local professional history, to absorb the lessons provided and, thus, to appreciate that history is indeed older than the minutes of the last county medical society meeting.

7. For those of us at the Brown Medical School, the *Journal* offers yet another special function. It is a major arena where this new medical school interacts with an established profession. (From the beginning of our existence as a Medical School, the *Journal* has honored us by inviting six of our professors to join the editorial board). The intimacy

between the Medical School and the *Journal* is but one facet of the broader working relationship between the practicing medical profession and the only Medical School in Rhode Island. It is important to reiterate that about one-third of the practicing physicians of this State are now on the voluntary medical faculty at Brown University.

The *Journal* yields a monthly page to the Medical School so that it may have an avenue both to express its views on various issues of mutual concern, as well as to share information with the profession on subjects of common interest (such as the internships within the hospitals of this community, a profile of the new medical students, new plans in medical education, as well as educational opportunities available to the practicing physicians).

Each year since 1975, the May issue of the *Journal* has been assigned, almost in its entirety, to the Brown Medical School graduating class. This *commencement* issue contains photographs and brief biographical information on each graduate as well as articles by students and faculty. The issue represents a way of recording and greeting new colleagues.

8. The investigative findings of medical science must be constantly incorporated into the daily practice of clinical medicine, into the essential personal transaction between physician and patient. I see the *Journal* as a place where the medical school faculty may indeed make such a contribution.

9. Finally, the *Journal* acts as a forum for the listing of community events of educational importance. Since all elements of the professional community (the hospitals, the Medical Society, and the Medical School) share in the responsibility of continuing medical education, the *Journal* is the most appropriate and convenient place to list these events periodically.

In reviewing the issues of this *Journal* published within the past seven years (the age of the Medical School), a number of observations may be made: first, that increasing numbers of excellent conferences are now published in the *Journal* (an average of two issues per year are presently devoted to the proceedings of major, local symposia);

second, it is a noteworthy fact that our best observers and scientists in the State are now contributing to the *Journal*; third, that virtually every recent issue of the *Journal* has contained one or more articles incorporating the phrase *Rhode Island* within its title. This is not meant to be an expression of chauvinism, but rather the compelling recognition that if the local journal does not describe and analyze those problems unique to the region, the national journals certainly shall not. In terms of this *Journal*, the center of gravity is clearly within our state boundaries.

I expect that the *Journal* will prosper in the future, not as a medical school house organ, but rather as a community medical journal which recognizes the community role of the Medical School in Rhode Island and exploits the communicative talents of its university-based physicians.

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†See Warnings, Precautions and Adverse Reactions.

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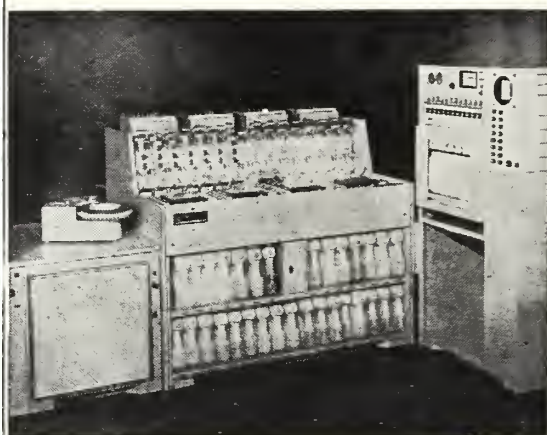
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I. Assessment of G.I. Function by Nuclear Medicine Tests

From This Assessment Structural Information Can Be Derived

By Sanford C. Spraragen, MD

Nuclear medicine may be defined as a study of physiology approached by combining appropriate radiopharmaceuticals with advanced electronic technology. Virtually everything we do in nuclear medicine is an assessment of function. From this assessment structural information can be derived. Combined with a pertinent clinical evaluation, these nuclear medical data can be invaluable to the diagnosis and/or the management of the patient.

Historical Developments

Nuclear medicine is a rapidly changing field. To keep abreast of the burgeoning developments and literature the practitioner of nuclear medicine must not only take a speed reading course, but also elicit the aid of colleagues in the various specialties to report

on nuclear medicine studies that have appeared in their literature.

Nuclear medicine has come a long way from the first rectilinear scanner introduced by Casen in the early 1950s. Fifteen years ago my career in nuclear medicine started with a teledelto scanner. There have been several generations of scanners and cameras since that time. Indeed, within the last month, we have added a large field of view (LFOV) camera, a 6th generation instrument to our armamentarium. In this fifteen year time period the resolution on scintigraphs has improved from 4.0 cm down to 1.5 cm and from 2.0 cm down to 0.5 cm, depending upon the location of the lesions. Having cameras on line with dedicated computers now provide inherent flexibility that permits our data processing capability to advance as the industry advances. Computers allow objectivity to be brought to the evaluation of dynamic as well as static studies.

Consequently, prejudices about nuclear medicine based on past bad experiences no more pertain today than would accusations against today's surgeons pertain based on the quality of surgery performed by their great, great, great, great grandfathers. At The Miriam Hospital we have a 4th and as I had just stated added a 6th generation camera. The 7th and 8th generation cameras are already on the drawing board. As a result, the diagnostic quality of a liver scan performed

Presented at the Surgical Gastroenterology Symposium, The Miriam Hospital, Providence, Rhode Island, May 20, 1978.

SANFORD C. SPRARAGEN, MD, *Clinical Associate Professor of Radiation Medicine, Brown University Program in Medicine, Providence, Rhode Island; formerly Director, Department of Nuclear Medicine, The Miriam Hospital, Providence, Rhode Island.*

today is far superior to the liver scans performed only a few short months ago.

It should also be apparent that in spite of the delays resulting from National Research Council and Federal Drug Administration regulations, that there have been remarkable advances made in the radiopharmaceutical industry. This progress is continuing. In the not too distant future there will be relatively inexpensive small hospital-based cyclotrons which will add an entire new dimension to the practice of nuclear medicine by providing nuclides having half-lives of seconds or, at the most, minutes as compared to the radio-nuclides employed today having half-lives of hours and days. Resolution approaching that of the x-ray and computerized tomography (CT) scanner can be expected.

Available Studies

Returning to today's world, the Department of Nuclear Medicine at The Miriam Hospital currently offers the following diagnostic studies to aid in the evaluation of gastrointestinal (GI) function: First, liver scans are offered. Technetium sulfur colloid is used to test the function of the Kupffer cells. Indications for liver scans are legion. A nonexhaustive list would include the desire for information regarding liver size; location; and the possibility of focal lesions, that is, primary or metastatic tumors, cysts, hemangiomas, or abscesses. Whether or not diffuse processes exist, such as hepatitis, cirrhosis, or lymphoma can also be ascertained. A possible superior vena cava obstruction or Budd-Chiari syndrome can also be investigated by a liver scan. It should also be mentioned that a liver scan can be helpful to selecting a percutaneous biopsy approach.

¹³¹I rose bengal for testing the function of parenchymal cells and the patency of the biliary tract is also available. This study is of particular importance to the evaluation of the jaundiced patient. ¹³¹I rose bengal can also be employed for the evaluation of acute cholecystitis. Here, rose bengal is administered following the intravenous administration of 30 units of cholecystokinin. This technique will enable the visualization of the gall bladder in all patients except those with acute cholecystitis.

HIDA (technetium labeled iminodiacetic acid) is now in phase III of its clinical

evaluation. Provided there is sufficient remaining parenchymal function, this radiopharmaceutical will allow exquisite visualization of the biliary tract and gall bladder. Computer software can be developed which will ultimately allow the production of cine-scintigraphy film loops which in seconds will portray, in the absence of obstruction, the transport of this radiopharmaceutical from the blood to liver parenchyma, to the biliary tree including the gall bladder, and then to the small bowel. If there is obstruction, this study is capable of demonstrating the site of obstruction.

Postoperative gall bladder patients with excessive and prolonged drainage via the T-tube may also be studied by introducing the appropriate radiopharmaceutical directly into the draining T-tube allowing for the evaluation of possible obstruction.

Spleen scanning also provides important information particularly in evaluating the left upper quadrant mass and abdominal trauma. It will be remembered that we are capable of visualizing the spleen at the same time that we scan the liver because both are reticuloendothelial organs capable of trapping the currently employed technetium sulfur colloid.

Pancreas scans can also be obtained. In my opinion this non-invasive diagnostic tool is under-utilized. Recently, new techniques have been developed which permit better separation of the pancreas from the overlying liver. It will be remembered that ⁷⁵Se methionine is employed for this study.

The gastrointestinal tract can also be scrutinized. You are all aware of the fact that Meckel diverticula lined by gastric mucosa can be localized by the fact that they will concentrate technetium pertechnetate.

GI bleeding can be detected by employing technetium sulfur colloid. The rationale for this study is that the technetium sulfur colloid will be trapped within the lumen of the bowel at the bleeding site prior to its being cleared from the peripheral blood by the liver.

Gastric emptying time can be evaluated by the oral administration of a tracer admixed with an appropriate diet. Similarly, gastric regurgitation can also be studied by employing an appropriate protocol.

Interabdominal inflammatory disease including acute pancreatitis may be studied by

utilizing 67-gallium surveys. The patency of LeVeen shunts can be established by employing intraperitoneal administered sulfur colloid. In this evaluation evidence is sought not only for activity within the tubing itself but also within the liver. Clearly, if the shunt is patent the labeled ascitic fluid will be returned to the systemic circulation, and the sulfur colloid reaching the systemic circulation along with the ascitic fluid will be trapped by the liver.

The role of nuclear medicine in the evaluation of the trauma patient must also be kept in mind. Clearly, the possibility of trauma to liver, kidney, and spleen can be investigated using nuclear medical techniques.

Finally, the role of nuclear medicine in the evaluation of gastrointestinal function would not be complete without mention of radio-immunoassay, for which the surviving originator, Roslyn Yalow, won the 1977 Nobel Prize in Medicine and Physiology. The list of assays is constantly growing. Kits are already available for determinations of gastrin, pancreatic glucagon, insulin, and carcinoembryonic antigen (CEA).

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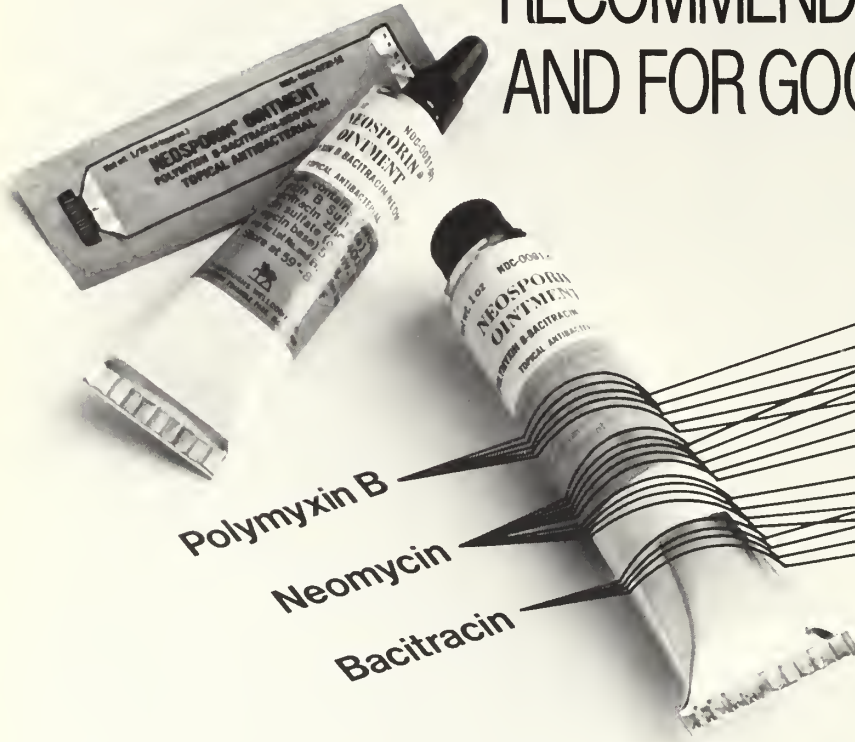
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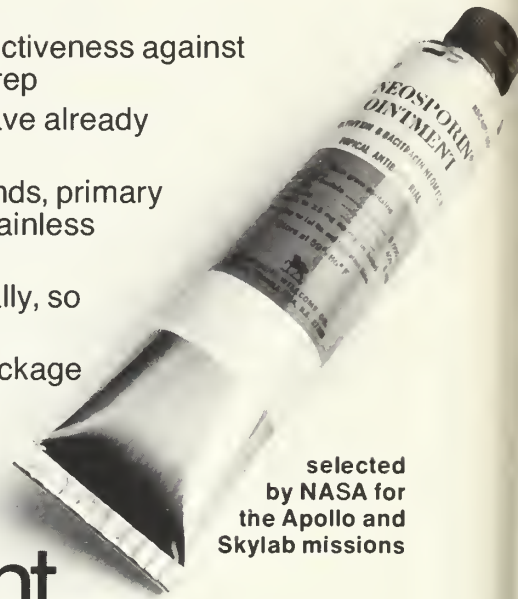
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II. Highly Selective Vagotomy: Rationale, Technique, and Results

Procedure Is Highly Effective As Regards Recurrence Rate And Undesirable Sequelae

By Steven I. Cohen, MD

Many enthusiastic reports have appeared in the recent surgical literature concerning the operation of parietal cell or highly selective vagotomy. In terms of the surgical treatment of duodenal ulcer disease, this operation may be considered the logical extension of Lord Moynihan's words in 1908: "In surgery, as in all of the arts, progress is usually to be measured by the gradual transition from complex and intricate procedures to those of a simpler kind."¹ The goals of surgery in the elective treatment of duodenal ulcer disease are effectively to reduce acid secretion, both basal and maximally stimulated; produce minimal interference with normal physiology and defense mechanisms; and have the lowest possible mortality and morbidity in terms of undesirable postoperative sequelae and recurrent ulceration. Current operative treatment

of duodenal ulcer disease is effective and meets these goals to a large extent; 80 to 90 per cent good to excellent results can be expected.

However, in the remainder of these patients there are postoperative complaints which vary from tolerable to totally disabling. Although the results from the varying operations differ somewhat in terms of mortality and effectiveness, morbidity seems to be fairly constant. The Leeds-York² trials compared the incidence of various postoperative disabling symptoms such as dumping, nausea, post-cibal fullness, bilious vomiting, and diarrhea with four currently popular operations: vagotomy and pyloroplasty, vagotomy and antrectomy, gastric resection without vagotomy, and vagotomy and gastroenterostomy. This study demonstrated that no one procedure is clearly superior with respect to the incidence of unpleasant sequelae over the others.

Vagotomy continues to be a mainstay in the surgical treatment of acid peptic disease. The search for a more effective and less disabling procedure has led to concepts of limiting vagotomy. The three current vagotomies include truncal vagotomy, selective vagotomy, and highly selective vagotomy³ (Figure 1). Truncal vagotomy involves section of the two main vagal trunks above the posterior nerve

Presented at the Surgical Gastroenterology Symposium, The Miriam Hospital, Providence, Rhode Island, May 20, 1978.

STEVEN I. COHEN, MD, *Clinical Instructor in Surgery, Brown University Program in Medicine, Brown University, Providence, Rhode Island; Assistant in Surgery, The Miriam Hospital, Providence, Rhode Island.*

of Laterjet and the anterior branch's division into the hepatic branch and the anterior nerve of Laterjet. This could appropriately be called a total abdominal vagotomy. In the selective technique the section is below the hepatic and the celiac branch and divides both nerves of Laterjet. Since the nerves of Laterjet are divided and the antral area and pyloric area are denervated, a drainage procedure is required. This produces a total gastric vagotomy.

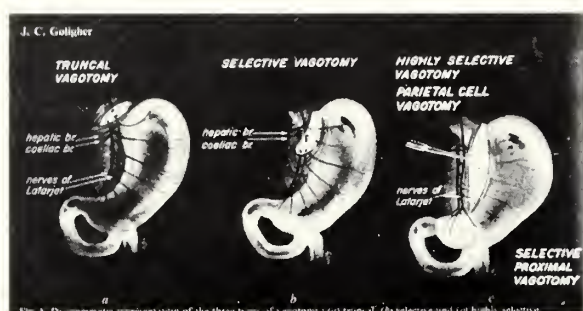


Figure 1. Diagrammatic representation of three types of vagotomy: (a) truncal, (b) selective, and (c) highly selective.

In the "highly selective" technique, the nerves of Laterjet are left intact. The vagal fibers which are divided are those which the nerves of Laterjet give off directly to the parietal cell area. Because of continued innervation of the antrum and the pylorus, no drainage procedure is needed. The technique of the operation itself has been well described by Goligher and others.³ The important technical considerations include preservation of the innervation of the pyloro-antral region 6 cm proximal to the pylorus and the division of all vagal fibers in the distal 5-7 cm of the esophagus. Higher rates of recurrent ulceration have clearly been correlated with failure to clear the distal esophagus over this length. Similarly, if dissection is carried too closely towards the pylorus, antral motor activity is compromised, resulting in gastric stasis and delayed gastric emptying.

The potential advantages of this procedure are as follows: an innervated pylorus and antrum may provide near normal gastric emptying; the extra-gastric and antral nerves may preserve inhibitory effects on acid secretion; a functioning pylorus may reduce reflux into the stomach and reflux gastritis; and

preservation of duodenal innervation may permit more normal release of duodenal hormones.¹ Results of clinical trials, both controlled and uncontrolled, seem to bear out these theoretical advantages. Several facts have emerged:

Parietal cell vagotomy is the safest vagotomy. Baron and Spencer⁴ found that in over 6,000 cases of truncal vagotomy and drainage there was a mortality of 0.8 per cent. For truncal vagotomy and antrectomy in over 1700 cases the mortality was 1.6 per cent. Johnston⁵ recently polled 43 surgeons performing parietal cell vagotomies and in over 5,000 cases he found a mortality of 0.3 per cent.

Parietal cell vagotomy has the least sequelae of any vagotomy. Most of the disturbances seen after gastric surgery are almost certainly related to the bypass, destruction, or resection of the normal mechanism of gastric emptying, i.e. the pylorus, the antrum, or both. Johnston found a delay in gastric emptying lasting longer than 3 days postoperatively in 0.7 per cent of cases. Of these only 0.1 per cent required reoperation for delayed gastric emptying. In Kennedy's⁶ controlled study the incidence of disabling or disturbing post-gastrectomy symptoms following highly selective vagotomy was compared with asymptomatic hospital controls. The Visick I and II gradings were 96 per cent compared to 100 per cent good to excellent results in the control population. The incidence of dumping and diarrhea appears to be less than 5 per cent in all published reports of parietal cell vagotomy. Even when these symptoms are present, they appear to be less severe and more easily controllable than in the other types of vagotomy.

Parietal cell vagotomy is an effective acid-reducing operation. Greenall⁷ studied the basal and peak acid output preoperatively, and at one and five years postoperatively. They found a 75 per cent reduction in basal acid output (BAO) at one year, and a 79 per cent reduction at five years, and a 51 per cent reduction in peak acid output (PAO) at one year, and 48 percent reduction at five years following parietal cell vagotomy (Figure 2). Dozois and Kelly⁸ have confirmed that the magnitude in reduction of BAO and PAO is of the same order in all of the types of vagotomy (Table I).

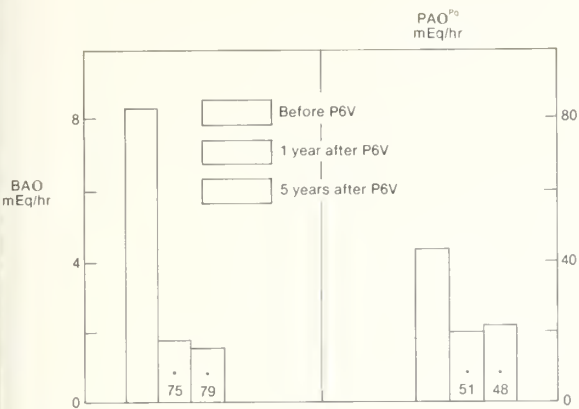


Figure 2. Per cent reduction in acid output at one and five years following proximal gastric vagotomy (from Greenal, *et al*⁷)

Table 1. Gastric Secretion of Acid After Vagotomy⁷

	TV	TGV	PGV
No. of patients	704	140	191
BAO (% reduction)	74	64	61
PAO (% reduction)	66	62	58

Parietal cell vagotomy disturbs gastric motility and emptying least. Preservation of antral-pyloric innervation maintains near normal peristalsis and antral mixing as has been demonstrated by several recent studies using both barium and radioactive-labelled meals.^{9, 10, 11}

Perhaps the last but most important question remaining to be answered relates to effectiveness of parietal cell vagotomy in preventing recurrent ulcers. In the early follow-up parietal cell vagotomy appears to offer a recurrence rate as low as or lower than the other types of vagotomy. No other operation for the treatment of duodenal ulcer disease has yielded a high ultimate recurrence rate after a low initial rate.⁴ Since this operation was first introduced in 1968, thousands of cases have been reported. Well controlled studies^{12, 13} in the 5-8 year follow-up range have been published and many others in the 2-4 year range. The past few months have seen the first reports of controlled prospective trials in this country by Jordan,¹⁴ Harrington, and Sawyers¹⁵ and others. It is apparent that the operation is enjoying increasing popularity. These reports are almost uniform in con-

firmed an acceptably low rate of recurrent ulceration and side effects.

Summary

It appears that the rate of recurrence with parietal cell vagotomy is in the 5-10 per cent range in the 2-4 year follow-up. Available data further suggest that parietal cell vagotomy is a highly effective procedure which is as good or better than truncal vagotomy and drainage in terms of recurrent ulcer and superior to all other operative procedures in terms of undesirable postoperative gastric sequelae.

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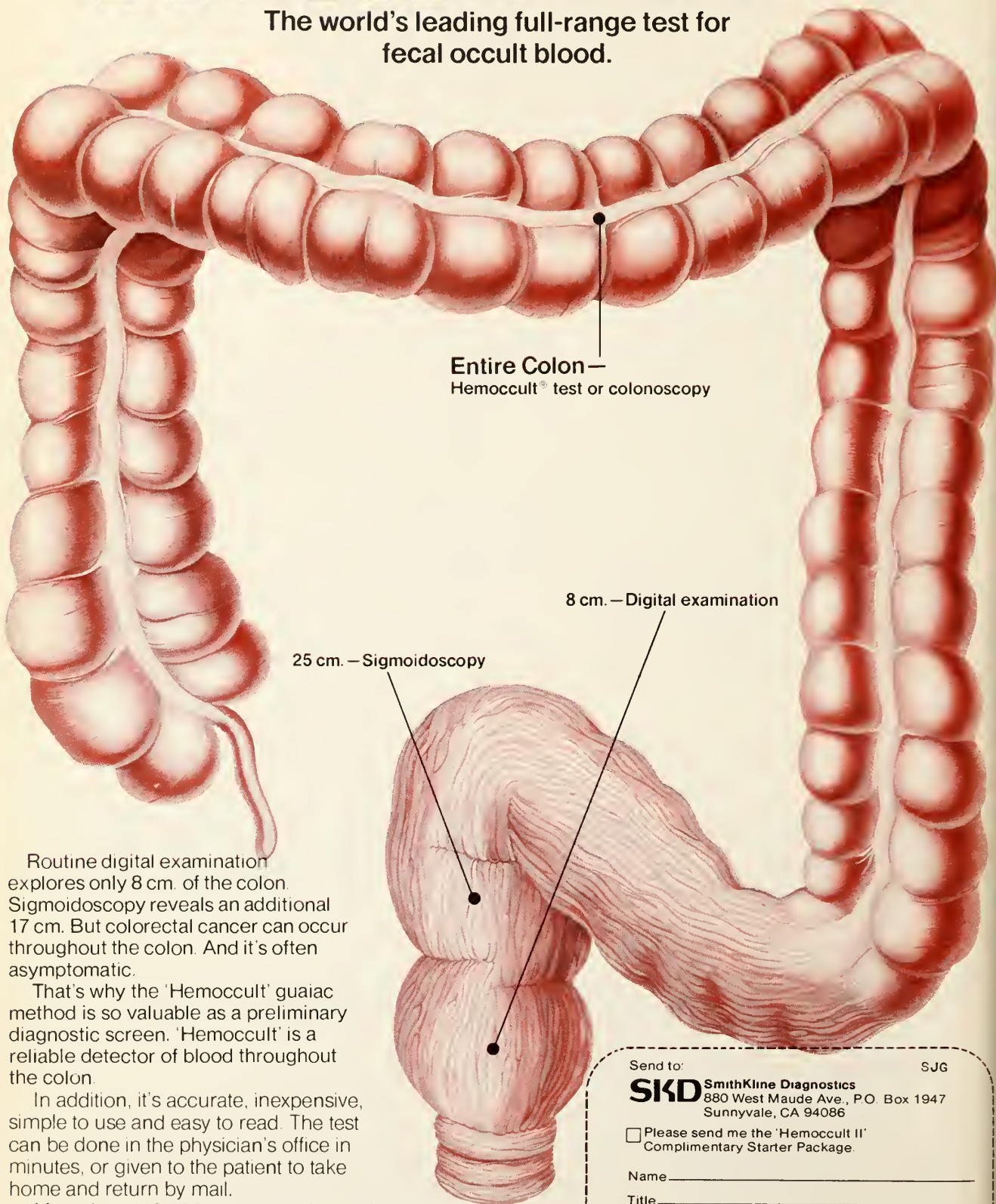
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III. Surgical Management of Pancreatic Diseases

Specific Indications For Intervention And For The Procedure To Be Performed

By Louis Vito, MD

The management of benign and malignant pancreatic diseases presents a challenge to the general surgeon and internist. Frequently, an inappropriate pancreatic procedure is performed or an appropriate procedure withheld with disastrous results. In this review we shall discuss the current surgical management of pancreatic diseases, indications for surgery, and alternatives to surgery when appropriate.

Acute Pancreatitis

Probably the most common pancreatic disease the surgeon is apt to encounter is acute pancreatitis. Most patients with acute pancreatitis have a benign course, but about 5 per cent will develop severe complications. Alcoholism and cholelithiasis account for approximately 80 per cent of cases of acute pancreatitis. The pathophysiology of alcoholic pancreatitis is unclear, but localized

duodenitis and papillitis have been implicated as causes, followed by regurgitation of activated pancreatic juice and bile into the pancreatic duct. Hypertriglyceridemia from alcohol abuse has also been associated with pancreatitis.

Reflux is most certainly involved in the etiology of gallstone pancreatitis. During attacks of acute pancreatitis in patients who also had known cholelithiasis Acosta and Ledesma² found gallstones in the feces in 94 per cent of cases.

Other causes of acute pancreatitis include: trauma, tumors, hyperlipemia, hypercalcemia, viral infections, drugs, malnutrition, uremia, pregnancy, vasculitis, and idiopathic causes. These account for 10 to 20 per cent of cases of acute pancreatitis.

Once the diagnosis of acute pancreatitis is made it is important to identify those patients who will develop severe complications associated with an increased morbidity and mortality. Ranson³ has identified eleven variables in patients with acute pancreatitis associated with increased morbidity and mortality (Table 1). The degree of amylase elevation does not reflect the severity of the disease. The presence of three or more of these signs in a patient with acute pancreatitis was associated with a significantly greater morbidity and mortality.

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LOUIS VITO, MD, *member of the staffs of The Miriam Hospital and Roger Williams General Hospital of Providence, Rhode Island.*

Table 1. Indicators of the Severity of Acute Pancreatitis and Its Prognosis

Age	greater than 55 years
Blood glucose	greater than 200 mg %
WBC	greater than 16,000
LDH	greater than 700 IU
SGOT	greater than 250 Sigma Frankel Units
Hematocrit	fall of over 10 in 48 hours
Serum Calcium	less than 8 mg % after 48 hours
Base Deficit	greater than 4 mEq/L after 48 hours
BUN	increase of more than 5 mg % in 48 hours
Fluid Sequestration	more than 6 liters in 48 hours
P _a O ₂	below 60 Torr on Room Air After 48 hours

The non-operative approach to the treatment of acute pancreatitis consists in keeping the patient on nothing by mouth and on nasogastric suction. Crystalloid and colloid solutions are administered as necessary. Meperidine instead of morphine should be used as an analgesic because of sphincter spasm caused by morphine. Arterial blood gases should be followed on a regular basis and oxygen used if hypoxia develops. Severe pulmonary insufficiency will require intubation and controlled ventilation. Broad spectrum antibiotics should be reserved for patients with fever, elevated white cell count, and documented bacteremia, or with suspected super-infection of the pancreas or retroperitoneum, or both. Routine use of antibiotics in patients with acute pancreatitis is not indicated.⁴

Peritoneal dialysis for acute pancreatitis instituted within 48 hours of hospitalization in patients with three or more of Ranson's prognostic indicators significantly decreases the time required in the Intensive Care Unit. It hastens the onset of oral feeding and decreases overall hospital time.⁵ Parenteral hyperalimentation has a role in selected patients with severe pancreatitis and prolonged ileus, helping to maintain immune competence and prevent severe malnourishment.⁶ Use of Trasylol® is ineffective in

palliating acute pancreatitis.⁷ Glucagon has not been fully evaluated, although initial reports are promising.⁸

Operative treatment of acute pancreatitis should be reserved for patients whose condition is deteriorating despite vigorous medical management, patients with hemorrhagic pancreatitis, and patients in whom the diagnosis is uncertain. The procedure of choice involves debridement of obviously necrotic and hemorrhagic retroperitoneal tissue and pancreas, followed by cholecystostomy; gastrostomy; feeding jejunostomy; sump drainage around the pancreatic head, body, and tail; and gravity drainage of the subdiaphragmatic areas, subhepatic space, and pelvis. With use of this approach in severe acute pancreatitis, Lawson et al⁹ were able to report a 74 per cent survival in a group of patients with an expected 75-90 per cent mortality. Twenty-six per cent died of sepsis 11-35 days following surgery.

There is no increased morbidity or mortality associated with laparotomy for acute pancreatitis provided direct pancreatic surgery is avoided.^{10,11} The danger of missed diagnosis justifies laparotomy in those patients whose condition worsens or in whom the diagnosis is uncertain. Warshaw¹² stresses the high incidence of late abscesses in patients undergoing multiple drainage and these must be treated aggressively, many requiring second procedures.

Surgical resection for fulminant pancreatitis has been attempted with generally mixed results,^{13,14} although it probably has a role in a very limited number of patients. Pancreatitis due to gallstones should be treated by the appropriate biliary tract procedure early in the course of the disease. Acosta¹⁵ advocates surgery in patients with known cholelithiasis and no history of alcohol abuse within 48 hours of the onset of acute pancreatitis.

Complications of acute pancreatitis are rare, occurring in less than 5 per cent of cases. These include hemorrhage, necrosis, abscess, pulmonary insufficiency, pseudocysts, pleural effusion, fistulae, and chronic pancreatitis. The complications are more common in severe acute pancreatitis as defined by Ranson. Abscesses must be drained widely by sump drainage. Uninfected pseudocysts should be drained internally. The timing of

the procedure depends on the condition of the patient and the thickness of the cyst wall as determined by ultrasound. Six weeks is still the recommended waiting period, but Grace¹⁶ has shown that pseudocysts can be drained safely three weeks after establishing the diagnosis. Pancreatic pseudocysts should always be drained internally unless infected because of a high incidence of recurrence if drained externally. Bleeding into cysts should be treated by emergency ligation of bleeding sites or resection of the cyst and pancreas involved.

Pancreatic Trauma

Treatment of pancreatic trauma depends on the location and extent of the injury. Mild non-ductal injuries can be treated by sump drainage. Occasionally suture repair of the duct injury is possible, but this is rare. Resection is usually the treatment of choice, especially if the duodenum as well as the duct is injured. Berne¹⁷ advocates duodenal "diverticularization" in combined pancreatic and duodenal injuries, if the duct of Wirsung is not avulsed.

Chronic Relapsing Pancreatitis

Medical management of chronic relapsing pancreatitis includes a low fat diet, abstention from alcohol and cigarettes, analgesics for pain, and pancreatic enzymes to prevent steatorrhea. Oral hyperalimentation in preparation for surgery is beneficial in a patient who is nutritionally depleted.¹⁸ A significant percentage of patients are chemical or mild diabetics due to destruction of pancreatic tissue. The condition is usually controlled by diet and oral hypoglycemics. Insulin is rarely needed.

Surgical treatment of chronic pancreatitis requires a thorough study of the ductal system of the pancreas before deciding on the procedure. Endoscopic retrograde cholangiopancreatography (ERCP) is almost always an essential preoperative study. The surgical approach depends on the ductal pathology present. Doubilet and Mulholland¹⁹ reported 88 per cent good results with sphincterotomy in the treatment of chronic pancreatitis. Partington²⁰ confirms this number but suggests that sphincteroplasty is essential to prevent recurrent stenosis. Warren²¹ emphasizes the necessity of resecting the septum between the distal common duct and

the sphincter of the duct of Wirsung. This yields 72 per cent good results in patients with sphincter stenosis and stricture of the papilla. In patients without stenosis of the sphincter of Oddi or the distal duct of Wirsung sphincteroplasty is useless. It is important to emphasize that a sphincteroplasty is different from a papillotomy. The incision into the sphincter must include the sphincter of the distal common duct usually slightly beyond one centimeter from the orifice of the papilla of Vater.

The Puestow procedure, a longitudinal pancreaticojejunostomy, is the preferred treatment for a dilated duct or a "chain of lakes" arrangement of the duct. Splanch-nicectomy has been abandoned as a procedure for the pain of chronic pancreatitis. True cysts of the pancreas should be resected if possible or drained into a loop of jejunum.²³ Resection of the pancreas for chronic pancreatitis should be reserved for those patients with intractable pain unresponsive to medical management when there is demonstrable ductal pathology not amenable to a drainage procedure or where narrowed ducts due to pancreatic distortion and fibrosis are present. Frey²⁴ evaluated the results of a Whipple procedure, a 40-80 per cent distal pancreatectomy, and a 95 per cent pancreatectomy in treating chronic pancreatitis. There was a 50 per cent palliation rate overall with patients returning to work. Long term mortality rate was 16 per cent for the Whipple, 17 per cent for the 40 to 80 per cent resection, and 27 per cent mortality for the 95 per cent pancreatectomy. Morbidity was higher with the last procedure due to a higher incidence of diabetes and a greater loss of body weight postoperatively. With 95 per cent pancreatectomy there is a higher incidence of common duct injury during surgery and a greater chance of jeopardizing the vascular supply of the duodenum because of ligation of the pancreaticoduodenal arcades. Braasch²⁵ recently evaluated total pancreatectomy in the treatment of chronic pancreatitis and found significant postoperative morbidity despite the absence of operative mortality. All patients were relieved of their preoperative pain, but only two of twenty-six were able to return to work. Thus extirpative surgery must be reserved as a last resort and performed for definite ductal disease.

Insulinomas

Eighty per cent of insulin-producing tumors are palpable in the pancreas at the time of surgery. Most are in the body of the pancreas followed in order of frequency by head and tail. Pathologically the tumor is a beta cell adenoma. Six per cent are multiple and about 10 per cent are malignant. Approximately 10 to 20 per cent are associated with the multiple endocrine adenomatosis (MEA) I syndrome. Whipple's triad is present in 50 to 75 per cent of patients with insulinoma. The triad includes symptoms of hypoglycemia precipitated by fasting, associated with a blood sugar of less than 50 mg per cent relieved by giving sugar. Fasting is the best noninvasive provocative test for hyperinsulinism, although tolbutamide stimulation is still used occasionally. The *sine qua non* is an elevated immuno-reactive insulin (IRI) associated with hypoglycemia and an absence of serum insulin antibodies. A preoperative arteriogram is 40 per cent accurate in locating the tumor.²⁶ Fifty per cent of these tumors are adequately treated by enucleating the tumor from the pancreas. If it is not palpable at the time of the surgery, a 95 per cent distal pancreatectomy should be performed. This procedure is associated with a 90 per cent cure rate. Total pancreatectomy is indicated in malignant insulinomas not limited to the distal pancreas or benign insulinomas if a distal resection was not curative. Unresectable malignant lesions are treated medically by diazoxide, streptozotocin, or both.

Zollinger-Ellison Syndrome

About 50 per cent of Z-E Syndrome cases are associated with the MEA I Syndrome. The etiology is a non-beta cell islet tumor. Sixty per cent of these tumors are malignant. About 40 per cent are multicentric in origin. Islet cell hyperplasia or microadenomatosis has also been implicated as a cause. The diagnosis is made when hyperacidity is associated with markedly elevated serum gastrin. In borderline cases the secretin stimulation test causes serum gastrin to increase in ZE, but causes a decrease in serum gastrin in normal patients or patients with peptic ulcers.

The treatment of choice is total gastrectomy even in the face of metastatic malignant

disease. Fox²⁷ reports a 30 per cent ten-year survival following total gastrectomy in patients with liver metastasis versus no ten-year survivors if less than a total gastrectomy were performed. This suggests some gastric feedback effect which influences the growth of the tumor. Since the tumor is slowly growing, aggressive treatment is indicated even in the face of extensive disease.

With the advent of cimetidine some surgeons advocate control of the disease with this drug and resection of a localized tumor either by partial or total pancreatectomy, thereby avoiding total gastrectomy and its postoperative problems. The data are still preliminary, but control of the disease has been accomplished in a few patients using this approach. However, because of the multicentric nature of the disease and its slow growth, longer follow-up is needed before it can be advocated as the procedure of choice for this disease.

Cancer of the Pancreas

Cancer of the pancreas is increasing in incidence at a rate of 15 per cent per ten years. It is now second to colorectal cancer as the most frequent gastrointestinal cancer in the United States. The age at the time of onset of the disease is also decreasing. There is still no early screening test to detect the disease before symptoms begin. At present, preoperative evaluation in those suspected of having pancreatic cancer should include ERCP. This is about 90 per cent accurate in predicting malignant neoplasm.²⁸ Less accurate are arteriography, ultrasonic scanning, pancreatic nuclear scans, and cytology, since these have an approximate 25 per cent false positive and a 25 per cent false negative rate. About 85 per cent of patients with cancer of the pancreas have an elevated carcinoembryonic antigen (CEA), but this is not specific for pancreatic tumor.²⁹

The following is Hemreck's³⁰ classification of pancreatic tumors: stage I, local disease; stage II, invasion of surrounding tissue including retroperitoneum, duodenum, and neural fibers; stage III, nodal metastasis; and stage IV, generalized carcinoma. Only stage I and II patients should be considered for pancreatic resection. It has been well documented that bypass gives the same degree of palliation and survival as does resection in stage III disease.

Resection is the treatment of choice in stage I and II disease. An attempt at tissue diagnosis should be made before resection. This is especially important in asymptomatic and anicteric patients. Wedge biopsy has a 15 per cent false negative rate and is associated with a 3 per cent morbidity and zero mortality. Direct needle biopsy has a 25 per cent false negative rate, and a 14 per cent morbidity, and a 9 per cent mortality. Transduodenal needle biopsy produces morbidity and mortality results similar to direct needle biopsy.³¹ Multiple aspiration biopsy with a 23 gauge needle produces no complications and may be more accurate than conventional biopsies.³²

In most reported series the survival for resection in stage I and II disease is at least double that for bypass. Warren³³ reports a 16 per cent five-year survival in patients without node involvement undergoing a Whipple procedure. Brooks³⁴ advocates total pancreatectomy in all patients with pancreatic adenocarcinoma, because 44 per cent of the cancers are multicentric because of the ductal spread of the disease. Certainly, if there is a question of tumor in the tail or if the duct is so small that a safe anastomosis cannot be performed, total pancreatectomy is indicated. Fortner's³⁵ regional pancreatectomy probably gives no better cure rate and no better palliation. In patients with unresectable tumor, if the biliary tract is bypassed a gastrojejunostomy should also be performed. Richards³⁶ found that 34 per cent of patients surviving biliary bypass alone for pancreatic cancer required a gastrojejunostomy after an average of 7.1 months postoperatively. This second procedure provided palliation for an additional 3.6 months. Therefore, the plea is made that a gastrojejunostomy be performed if biliary bypass is possible. High dose x-ray therapy may have a role in unresectable pancreatic cancers. Haslam³⁷ reports an impressive 21 per cent two-and-a-half year survival in patients given high dose radiation therapy. Chemotherapy has not yet proved effective in palliating the disease.

Pancreatic Transplants

Pancreatic transplantation is still very much in the animal experimental stages. In a few cases of whole human pancreas transplant in juvenile diabetics subsequent to renal transplantation significant improvement in the

diabetes has been noted.³⁸ However, this is a transient effect and none of the transplanted pancreases lasted beyond fifteen months. Islet cell transplants may be technically easier, but the two most significant problems with this therapy is harvesting islet cells and the extreme immunogenicity of the islets.³⁹ Use of islets in ten patients has given only transient improvement in diabetes when implanted subsequent to renal transplantation.⁴⁰ Therefore, at present this is still in an experimental stage. However, with advances in controlling the immune response, pancreatic or islet cell transplants may play a role in the future in controlling diabetes and preventing its complications.

Conclusion

Surgical management of pancreatic diseases must be approached in an organized fashion. There are specific indications for surgery as well as for the type of surgical procedure. Principles of therapy are founded on scientific observation and the collection of data. It is only when these principles are neglected in treating pancreatic diseases that disaster results.

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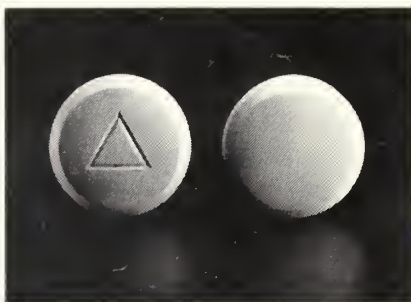
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The Maker

Examining a Few Myths About Prescribing.

Increasing pressure is being put on the practicing physician to prescribe drugs generically. You are told that brand-name products are universally "expensive" and generic versions are relatively "cheap." To make this case, the most extreme (rather than typical) price differentials are cited. Thus, consumers are led to believe that such differentials are commonplace. Even your knowledge and your motives as a physician are questioned.



Understandably, these views have created myths. We think it's time to examine them in the light of all the facts and ramifications.

MYTH: There are no differences in quality and performance between brand-name products and their generic counterparts. The corollary is that there are no differences among products made by high-technology, quality-conscious, research-based companies and those made by commodity-type suppliers.

FACT: The Food and Drug Administration does a good job in monitoring a generally excellent drug supply. Still, it has nowhere near the resources to guarantee the quality and bioavailability of all marketed products at any given time. Just a few months ago, for example, it noted that batches of tetracycline HCl capsules which met official monograph requirements were

not bioequivalent to a reference product. As you know, there is substantial literature on this subject affecting many drugs, including such antibiotics as tetracycline and erythromycin. The record of drug recalls and court actions affirms strongly that there are differences among pharmaceutical companies and their products. Research-intensive companies have far better records than those that do not. Research and may practice minimum quality assurance.

MYTH: Industry favors only "expensive" brand names and denigrates generics.

FACT: PMA companies make 90 to 95 percent of the drug supply, including, therefore, most of the generics. Drug nomenclature is not the important point; it's the competence of the manufacturer and the integrity of the product that count.

Matters.

Generic options always exist.

About 55 percent of prescription drug expenditure is for single-drug products. This is of course, that for 44 percent of such expenditure, is a generic drug option available.

Generic prescriptions are filled with generic equivalents, thus saving consumers large amounts of money.

Market data show that generic drugs are invariably cheaper—and pharmaceutical companies—both brand and generically manufactured products from the same manufacturer, in the best interest of patients. In most cases, the patient receives the same brand product, but at a lower cost, from voluntary substitution of generic equivalents. The savings are grossly exaggerated.

MYTH: *Drugs account for a major portion of the rise in health care costs.*

FACT: Drugs represent a very small part of such costs. The amount of the health care dollar spent for prescription drugs was about 12 cents in 1967; today it is about 8 cents. And you as a physician are most conscious of how drug therapy can cut hospitalization, avert surgery, reduce office visits and keep patients on the job.

MYTH: *Government intrusions into the marketplace will save tax money.*

FACT: Government schemes always cost the taxpayer something, and the costs often exceed the benefits. Certainly, any federal "help," such as lists of wholesale drug prices sent to all physicians and pharmacists, will be no exception. Just think of the expense of keeping them current! Moreover, wholesale prices are poor guides to actual transaction prices and even worse guides to retail prices.

The PMA Position

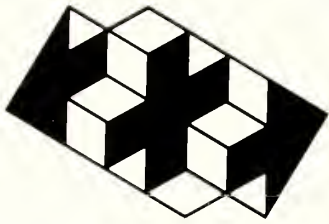
We believe your freedom to prescribe, either by generic or brand name, should be totally unabridged. Otherwise, your prescribing prerogatives and your relationships with patients will be seriously impaired.

The maker does matter

After the myths about price and equivalency have been shattered, one fact stands out more clearly than ever: *The maker does matter.* As always, your best guide to drug therapy for your patients is to select products—both brands and generics—from manufacturers with credentials and performance records you have come to respect.

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IV. Peptic Ulcer: Cimetidine and Other New Concepts

Cimetidine And Highly Selective Vagotomy Offer New Modalities In Management

By Herbert Rakatansky, MD

The purpose of this paper is to give a basic introduction to the physiology and clinical effects of cimetidine. Cimetidine is a result of careful search for a drug which would block histamine-2 (H_2) receptors. The first clinically effective and utilized H_2 blocker was metiamide. This was highly effective when used initially in Zollinger-Ellison syndrome. However, it was found to produce the agranulocytosis. Attempts were made to construct a variant so as to eliminate the portion of the molecule which was thought to be responsible for agranulocytosis. Cimetidine was the final result and is the presently clinically available drug. The fact that the molecular change was responsible for eliminating agranulocytosis was proved by the experience of several patients who had developed agranulocytosis while on metiamide administered for the

Zollinger-Ellison syndrome. These patients, after their agranulocytosis was reversed by stopping the metiamide, were then started on cimetidine and did well.

Mode of Action

The duration of action of cimetidine when given intravenously or orally is from 4 to 6 hours. Cimetidine is not given intramuscularly. The inhibitory level is 0.5 picograms per milliliter. Oral cimetidine is best given with each meal and at bedtime, so that the delayed gastric emptying along with each meal prolongs the action somewhat. It is important to understand that cimetidine inhibits only the histamine receptor on the parietal cell. There are also receptors for acetylcholine, gastrin, and entero-oxyntin. Each of these receptors stimulates cyclic AMP which is the internal messenger or second messenger which tells the cell to start marking hydrogen ions. It would appear that histamine, gastrin, and acetylcholine each stimulates separate receptors and that the histamine receptor is permissive in allowing the acetylcholine and the gastrin receptors to stimulate the cells.

By inhibiting the histamine receptor one can effectively eliminate most, but not all, of the acid production which is stimulated by acetylcholine or gastrin. Correspondingly, atropine in sufficient doses can also signifi-

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HERBERT RAKATANSKY, MD, *Clinical Assistant Professor of Medicine, Brown University Program in Medicine, Providence, Rhode Island; member of the staffs of The Miriam Hospital, Rhode Island Hospital, and Roger Williams General Hospital, Providence, Rhode Island.*

cantly inhibit gastric secretion. The doses, however, are clinically unacceptable because of the side-effects. There is no clinically effective inhibitor of the gastrin receptor. Cimetidine works as well as it does because it is able to inhibit the histamine receptor without producing unacceptable side-effects. In addition to inhibiting acid production, pepsinogen is also inhibited. This, however, is of little clinical significance. Intrinsic factor is probably not inhibited.

Administration

Schilling tests done on patients who are on cimetidine are normal. Cimetidine has little or no effect on the function of the G cell in the antrum so that basal gastrin levels are normal in patients taking cimetidine. However, because of the lack of acid feed-back which turns off the gastrin levels, post-prandial gastrin levels are much higher than normal. The normal stimulus for gastrin is distension of the antrum and protein in the antrum. The turn-off mechanism for gastrin is acid coming down from the fundus. The duration of action of cimetidine is related to the creatinine clearance, so that patients with renal insufficiency should receive lower doses. If the patient has moderate renal insufficiency with a blood urea nitrogen (BUN) of 50 or 60, the dose should be reduced to 3 tablets or 900mg a day. If the patient has severe renal failure with a BUN of over 100, the dose should be reduced to 300 mg twice a day. If the patient receives dialysis, an extra dose should be given at the end of dialysis, since cimetidine is dialyzable.

Cimetidine is most effective in proven duodenal ulcer. Controlled studies have demonstrated that approximately 70 per cent of patients treated with 1.2 grams a day have endoscopically proven healing of their ulcer compared to 37 per cent treated with placebo.

Clinical improvement in terms of getting better from pain during the day or at night is not correlated well with endoscopic healing. Continued night-time pain, however, is correlated with lack of healing. A recent controlled study in the United States has shown that the placebo effect was much greater than in the original control studies done in Europe. The reasons for this are not clear, but it may be that there is a greater intake of antacids on a voluntary basis. The effect of cimetidine on gastric ulcer is less dramatic, but still present.

Approximately 60 per cent of patients with gastric ulcer have endoscopic healing when on cimetidine. Cimetidine may also be used for peptic esophagitis, although its use is not so clear in these instances. It is certainly indicated in patients with hypersecretion due to Zollinger-Ellison syndrome and is an effective alternative to total gastrectomy in this situation. Some of these patients, however, may require higher doses than the standard 1.2 grams per day. It has been suggested that when cimetidine is discontinued the ulcer, particularly the duodenal ulcer, may return almost with a vengeance.

Control studies have shown that frequent feedings during the day with between-meal antacids and a single night-time dose of cimetidine just before going to bed may, however, reduce the recurrence rate of duodenal ulcer successfully treated by cimetidine originally. Cimetidine given in full therapeutic dosage for long periods of time may not be appropriate in most cases since we don't know yet the long-term side-effects. Certainly, in younger patients with recurrent duodenal ulcer, highly selective vagotomy may be a more attractive alternative. On the other hand, elderly patients in whom the risk of any surgery is prohibitive may benefit from long-term cimetidine therapy.

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V. Diagnosis and Management of Pancreaticoduodenal Injuries

Suspicion Of Intra-Abdominal Injury Is Essential To Improved Results

By Arnold H. Herman, MD, FACS

Blunt upper abdominal trauma is very common in our society. The level of suspicion for this type of injury remains low among the clinicians evaluating trauma. Twenty to thirty per cent of all patients who die in the hospital after sustaining intra-abdominal injury die because treatment was delayed, inadequate, or inappropriate. If the delay in treatment exceeds 24 hours, the mortality rate rises from eleven per cent to forty per cent. These delays are related to the paucity of specific symptoms elicited by these injuries. Surgery is usually performed for the complications of hemorrhage, shock, or peritonitis which occur late.

To improve upon this situation the initial examining physician must suspect intra-abdominal injury from the nature of the accident. This will most commonly be due to

the steering wheel in an automobile accident or rapid deceleration. Handlebars of motorcycles and bicycles are common causes of injury, as is direct trauma by fist or blunt instrument.

Injuries to the pancreas and duodenum are particularly difficult to diagnose. Fortunately, they account for only one to three per cent of all abdominal trauma, penetrating or blunt. Despite their relatively protected anatomic position, their fixation over the vertebrae contribute to the types of injury which they do sustain.

Impact to the right upper quadrant forces the liver and biliary tree superiorly, the duodenum and pancreatic head medially, and the hepatic flexure inferiorly. The duodenum may rupture, be contused or lacerated, or form an intramural hematoma. The pancreas may be contused, lacerated, or transected.

Impact more toward the epigastrium can cause transection of the body of the pancreas, while impact to the left of the midline can cause injury to the tail of the pancreas and spleen.

The duodenum and pancreas are nestled in the angle of the aorta and superior mesenteric artery. Associated injuries involve muscular disruption of the gastroduodenal, middle, and right colic arteries. Injuries to the aorta, inferior vena cava, superior mesenteric artery,

Presented at the Surgical Gastroenterology Symposium, The Miriam Hospital, Providence, Rhode Island, May 20, 1978.

ARNOLD H. HERMAN, MD, FACS, *Clinical Associate Professor of Surgery, Brown University Program in Medicine, Providence, Rhode Island; member of the staffs of The Miriam Hospital and Roger Williams General Hospital of Providence, Rhode Island.*

and superior mesenteric vein may occur. Bleeding into the hepatoduodenal ligament or mesocolon can be particularly difficult to diagnose. The most frequent cause of death after pancreaticoduodenal injury is hemorrhage.

The duodenum becomes a closed loop when it is compressed at the pylorus and the ligament of Treitz. This acutely closed loop will rupture transversely along the antimesenteric border in the second portion of the duodenum. Tearing, shearing forces at the junction of the mobile and fixed portions of the duodenum can cause injury also. A direct crushing blow against the vertebral column can also occur in a person with a relaxed abdominal wall. It rarely occurs in athletes or muscular young men.

Diagnosis

These injuries must be suspected in any patient who is involved in a high-speed, front-end collision automobile accident. Suspicion is heightened if the patient was the driver, was using alcohol, or was not wearing a seatbelt. If contusions and abrasions are seen on the lower abdomen, it would suggest that the seat-belt was worn improperly and could be responsible for the internal injuries sustained.

After pancreaticoduodenal injuries patients are usually not hypotensive, are minimally tender over the upper abdomen, and do not have rigid abdomens.

Laboratory and x-ray tests are usually not specific in helping to establish duodenal or pancreatic injury. An elevated serum amylase may be found. An abdominal lavage is frequently negative despite serious injury to the duodenum or pancreaticobiliary system.

Although a segmental ileus may demonstrate the classic "sentinel loop" in the upper abdomen, diligent evaluation of x-ray films for the presence of retroperitoneal air is mandatory if a ruptured duodenum is to be found promptly. The air bubbles are seen along the upper right psoas muscle border, at the perirenal fat line, and in the lower mediastinum. These areas are best seen on the right rib x-ray series or by tomography of the right upper quadrant. A cross-table lateral x-ray film of the abdomen will demonstrate the bubbles anterior to the body of the first lumbar vertebra. A Gastrografin® upper intestinal series can confirm the diagnosis.

Operation

At operation a thorough systematic examination of the entire duodenum and pancreas must be done. It has been estimated that one-third of retroperitoneal injuries are not recognized by the surgeon. Preventable deaths have occurred because of the reluctance of the surgeon adequately to mobilize and expose all of the duodenum.

The presence of bile, blood, or crepitus in the retroperitoneum confirms a retroperitoneal injury to the pancreas or duodenum. All upper abdominal retroperitoneal hematomas must be opened and carefully examined.

After hemorrhage is controlled, the right and left colon should be mobilized to visualize the entire duodenum and pancreatic head. Exploration of the lesser sac will allow visualization of the body and tail of the pancreas. All associated injuries must also be treated at the initial operation.

The surgical management of these patients must be individualized to their needs. If injury is limited to the duodenum, evacuation of an intramural hematoma or two-layer closure of a perforation will suffice. If the lumen is compromised or the wall severely contused and edematous, a gastrojejunostomy should be done. Severe destruction of the duodenum alone is not an indication for resection unless the ampulla of Vater is compromised.

Minor pancreatic injuries can be managed by placement of appropriate drains. If the pancreas is disrupted to the left of the superior mesenteric artery, resection is indicated if the patient is not a diabetic. If the disruption is to the right of the superior mesenteric artery, anastomosis of the pancreatic duct to the intestine must be made. Major duct disruption is managed best by construction of a Roux-en-Y loop.

Any sutures placed into the pancreas should be shallow mattress sutures. Deep sutures can cause pancreatitis. All devitalized tissue must be removed, and unimpeded drainage of the pancreas to the intestine or surface must be established. This will prevent the complications of pancreatitis and pseudocyst formation. Appropriately placed sump drains are needed for seven to ten days to minimize complications.

If there is a combined pancreaticoduodenal injury, a resection should be done only if the pancreatic duct is separated from the duodenum or if severe fragmentation of the pancreas precludes anastomosis.

If severe duodenal injury is associated with less severe pancreatic injury, a duodenal diverticulization procedure may be indicated. This consists of an antrectomy and vagotomy, gastrojejunostomy, end-tube duodenostomy, T-tube drainage of the common bile duct, and wide drainage of the upper abdomen. This procedure is also indicated if injury to the main pancreatic ductal system is suspected but cannot be confirmed.

Summary

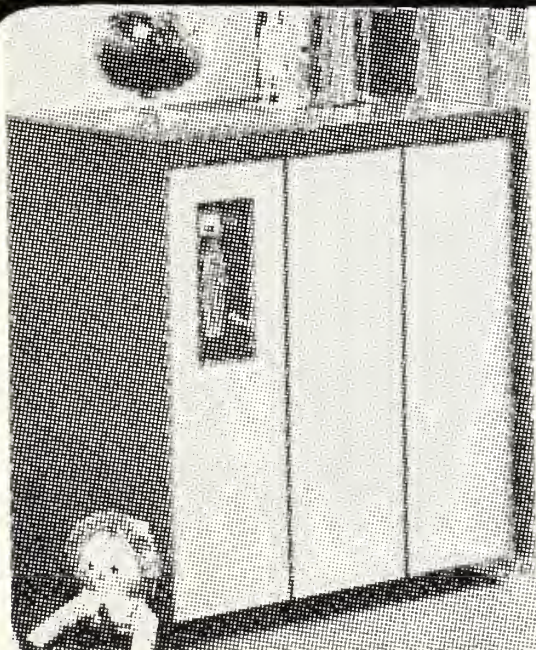
Careful evaluation of the patient after blunt upper abdominal trauma, prompt surgical intervention, and appropriate surgical management of the injuries found will

reduce the morbidity and mortality of pancreaticoduodenal injury.

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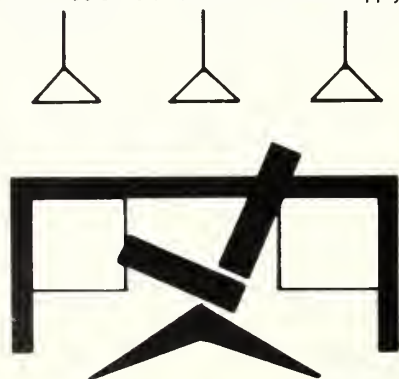


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Brief Summary

INDICATION Tenuate and Tenuate Dospan are indicated in the management of exogenous obesity as a short-term adjunct (a few weeks) in a regimen of weight reduction based on caloric restriction. The limited usefulness of agents of this class should be measured against possible risk factors inherent in their use such as those described below.

CONTRAINDICATIONS Advanced arteriosclerosis, hyperthyroidism, known hypersensitivity or idiosyncrasy to the sympathomimetic amines, glaucoma. Agitated states. Patients with a history of drug abuse. During or within 14 days following the administration of monoamine oxidase inhibitors, hypertensive crises may result.

WARNINGS If tolerance develops, the recommended dose should not be exceeded in an attempt to increase the effect; rather, the drug should be discontinued. Tenuate may impair the ability of the patient to engage in potentially hazardous activities such as operating machinery or driving a motor vehicle; the patient should therefore be cautioned accordingly. **Drug Dependence** Tenuate has some chemical and pharmacologic similarities to the amphetamines and other related stimulant drugs that have been extensively abused. There have been reports of subjects becoming psychologically dependent on diethylpropion. The possibility of abuse should be kept in mind when evaluating the desirability of including a drug as part of a weight reduction program. Abuse of amphetamines and related drugs may be associated with varying degrees of psychologic dependence and social dysfunction which, in the case of certain drugs, may be severe. There are reports of patients who have increased the dosage to many times that recommended. Abrupt cessation following prolonged high dosage administration results in extreme fatigue and mental depression, changes are also noted on the sleep EEG. Manifestations of chronic intoxication with anorectic drugs include severe dermatoses, marked insomnia, irritability, hyperactivity, and personality changes. The most severe manifestation of chronic intoxications is psychosis, often clinically indistinguishable from schizophrenia. **Use in Pregnancy** Although rat and human reproductive studies have not indicated adverse effects, the use of Tenuate by women who are pregnant or may become pregnant requires that the potential benefits be weighed against the potential risks. **Use in Children** Tenuate is not recommended for use in children under 12 years of age.

PRECAUTIONS Caution is to be exercised in prescribing Tenuate for patients with hypertension or with symptomatic cardiovascular disease, including arrhythmias. Tenuate should not be administered to patients with severe hypertension. Insulin requirements in diabetes mellitus may be altered in association with the use of Tenuate and the concomitant dietary regimen. Tenuate may decrease the hypotensive effect of guanethidine. The least amount feasible should be prescribed or dispensed at one time in order to minimize the possibility of overdosage. Reports suggest that Tenuate may increase convulsions in some epileptics. Therefore, epileptics receiving Tenuate should be carefully monitored. Titration of dose or discontinuance of Tenuate may be necessary.

ADVERSE REACTIONS: *Cardiovascular:* Palpitation, tachycardia, elevation of blood pressure, precordial pain, arrhythmia. One published report described T-wave changes in the ECG of a healthy young male after ingestion of diethylpropion hydrochloride. *Central Nervous System:* Overstimulation, nervousness, restlessness, dizziness, jitteriness, insomnia, anxiety, euphoria, depression, dysphoria, tremor, dyskinesia, mydriasis, drowsiness, malaise, headache, rarely psychotic episodes at recommended doses. In a few epileptics an increase in convulsive episodes has been reported. *Gastrointestinal:* Dryness of the mouth, unpleasant taste, nausea, vomiting, abdominal discomfort, diarrhea, constipation, other gastrointestinal disturbances. *Allergic:* Urticaria, rash, ecchymosis, erythema. *Endocrine:* Impotence, changes in libido, gynecomastia, menstrual upset. *Hematopoietic System:* Bone marrow depression, agranulocytosis, leukopenia. *Miscellaneous:* A variety of miscellaneous adverse reactions has been reported by physicians. These include complaints such as dyspnea, hair loss, muscle pain, dysuria, increased sweating, and polyuria.

DOSEAGE AND ADMINISTRATION: Tenuate (diethylpropion hydrochloride) One 25 mg tablet three times daily, one hour before meals and in mid-evening if desired to overcome night hunger. Tenuate Dospan (diethylpropion hydrochloride) controlled-release One 75 mg tablet daily, swallowed whole, in midmorning. Tenuate is not recommended for use in children under 12 years of age.

OVERDOSAGE: Manifestations of acute overdosage include restlessness, tremor, hyperreflexia, rapid respiration, confusion, assaultiveness, hallucinations, panic states. Fatigue and depression usually follow the central stimulation. Cardiovascular effects include arrhythmias, hypertension or hypotension and circulatory collapse. Gastrointestinal symptoms include nausea, vomiting, diarrhea, and abdominal cramps. Overdose of pharmacologically similar compounds has resulted in fatal poisoning, usually terminating in convulsions and coma. Management of acute Tenuate intoxication is largely symptomatic and includes lavage and sedation with a barbiturate. Experience with hemodialysis or peritoneal dialysis is inadequate to permit recommendation in this regard. Intravenous phentolamine (Regitine®) has been suggested on pharmacologic grounds for possible acute, severe hypertension, if this complicates Tenuate overdosage.

Product Information as of April, 1976

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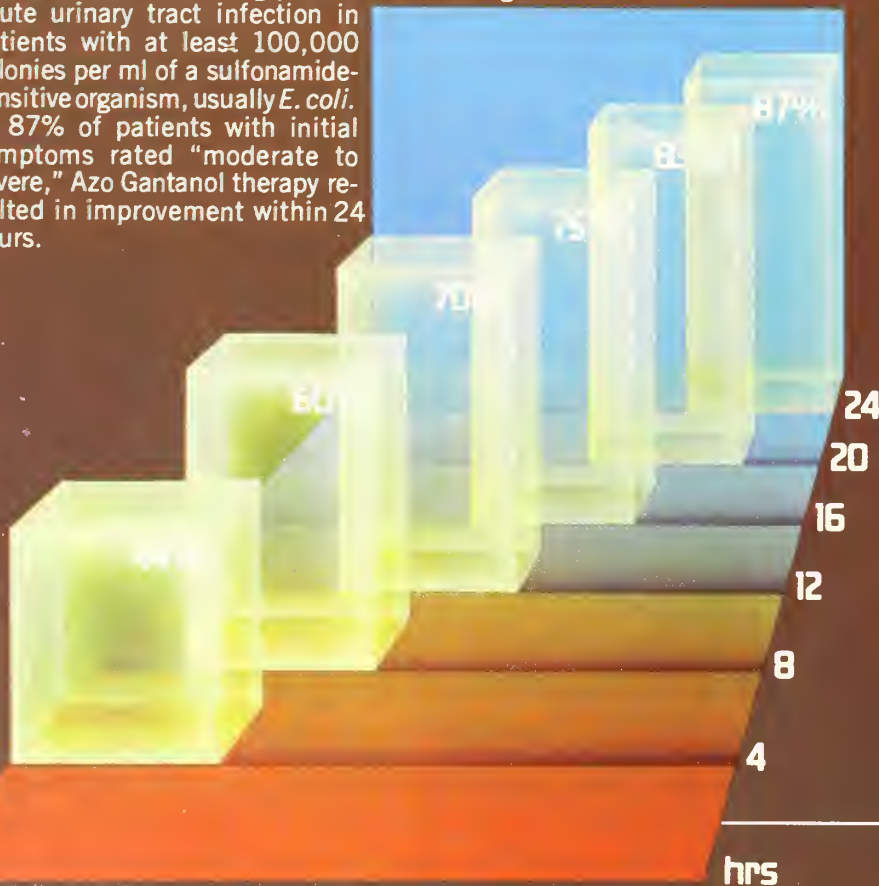


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the pathogens

Before prescribing, please consult complete product information, a summary of which follows.
Indications: In adults, urinary tract infection complicated by pain (primarily pyelonephritis, pyelitis and cystitis) due to susceptible organisms (usually *E. coli*, *Klebsiella-Aerobacter*, *Staphylococcus aureus*, *Proteus mirabilis*, and, less frequently, *Proteus vulgaris*) in the absence of obstructive uropathy or foreign bodies. **Note:** Fully coordinate *in vitro* sulfonamide sensitivity tests with bacteriologic and clinical response. aminobenzoic acid to follow-up culture media. increasing frequency of resistant organisms. the usefulness of antibacterials including sulfonamides. Measure sulfonamide blood levels. variations may occur; 20 mg/100 ml should be maximum total level.

Contraindications: Children below age 12; sulfonamide hypersensitivity; pregnancy at term during nursing period; because Azo Gantanol contains phenazopyridine hydrochloride it is contraindicated in glomerulonephritis, severe hepatic uremia, and pyelonephritis of pregnancy with disturbances.

Warnings: Safety during pregnancy not established. Deaths from hypersensitivity reactions, agranulocytosis, aplastic anemia and other blood dyscrasias have been reported and early clinical signs (fever, throat, fever, pallor, purpura or jaundice) may indicate serious blood disorders. Frequent complete urinalysis with microscopic examination recommended during sulfonamide therapy.

Precautions: Use cautiously in patients with impaired renal or hepatic function, severe allergic bronchial asthma; in glucose-6-phosphate dehydrogenase-deficient individuals in whom dose-related hemolysis may occur. Maintain adequate fluid intake to prevent crystalluria and stone formation.

Adverse Reactions: Blood dyscrasias (agranulocytosis, aplastic anemia, thrombocytopenia, leukopenia, hemolytic anemia, purpura, thrombinemia and methemoglobinemia); allergic reactions (erythema multiforme, skin eruptions, Stevens-Johnson syndrome, epidermal necrolysis, urticaria, serum sickness, pruritus, exfoliative dermatitis, anaphylactoid reactions, periorbital edema, conjunctival and scleral injection, sensitization, arthralgia and allergic myocytosis); *G.I.* reactions (nausea, emesis, abdominal pain, hepatitis, diarrhea, anorexia, pancreatitis, stomatitis); *CNS* reactions (headache, peripheral neuritis, mental depression, convulsions, hallucinations, tinnitus, vertigo and insomnia); *miscellaneous reactions* (drug fever, chills, nephrosis with oliguria and anuria, periarteritis nodosa and L. E. phenomenon). Due to chemical similarities with some goitrogenic agents, sulfonamides have caused instances of goiter production, diuresis and glycosuria. Cross-sensitivity with these agents exist.

Dosage: Azo Gantanol is intended for the painful phase of urinary tract infections. **Adult dosage:** 2 Gm (4 tabs) initially, then (2 tabs) B.I.D. for up to 3 days. If pain persists causes other than infection should be sought. After relief of pain has been obtained, continued treatment with Gantanol (sulfamethoxazole) be considered.

NOTE: Patients should be told that the orange dye (phenazopyridine HCl) will color the urine. **Supplied:** Tablets, red, film-coated, each containing 0.5 Gm sulfamethoxazole and 100 mg phenazopyridine HCl—bottles of 100 and 500.



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Nutley, New Jersey 07110

Report of the House of Delegates

Minutes:
September 5, 1979

A special meeting of the House of Delegates of the Rhode Island Medical Society was held on Wednesday, September 5, 1979 in the Rhode Island Medical Society auditorium. Members present were:

Kent County: Peter Baute, Klaus F. Haas, MDs

Washington County: Louis Morrone, MD

Woonsocket District: Orazio Basile, Oscar Dashef, E. James Monti, Jr., MDs

Providence County: Charles J. Ashworth, Jr., Joseph P. Bellino, Thomas G. Breslin, Erminio Cardi, John J. Coughlin, Frank G. DeLuca, Herbert F. Hager, Melvin D. Hoffman, Betty B. Mathieu, Richard T. McDermott, Anthony F. Merlino, Guy T. Settipane, Louis V. Sorrentino, Richard L. Testa, MDs

Officers of the Rhode Island Medical Society: Charles L. Hill, Peter L. Mathieu, Jr., Melvin D. Hoffman, MDs

Members Ex Officio: Seebert J. Goldowsky, Herbert F. Hager, MDs

Specialty Society Representatives: John J. Coughlin, Augustine M. McNamee, Stephen Issenberg, MDs

Commissioners: Kenneth Liffmann, MD, Anthony F. Merlino, MDs

In the absence of the Speaker, Leonard S. Staudinger, MD (excused) and the Vice-Speaker, Charles P. Shoemaker, Jr., MD (excused) Dr. Charles L. Hill, President of the Rhode Island Medical Society, called the meeting to order at 3 pm. Dr. Hill explained that the purpose of this special meeting was to consider one issue, Self-Insurance. He then introduced Dr. Louis Vito, Jr., Chairman of the Committee on Self-Insurance. Dr. Vito spoke of his committee and what they were looking into as a possible alternative to the

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JUA. He then introduced Mr. John Schroeder, Vice-President of the firm of Johnson & Higgins who have an outstanding reputation in setting up physician-owned medical insurance companies.

Mr. Schroeder presented a program along with a slide presentation that explained the feasibility study his company would do. The initial cost of this study would be \$11,000 and, if approved by the Society, the implementation phase to set up the Self-Insurance Company for physicians would cost another \$11,000.

A lengthy question and answer period followed with a great many questions relative to comparisons between a Self-Insurance Company and the existing JUA.

Dr. Hill then requested a motion calling for a \$10 assessment of each member of the Society which would allow, initially, a study by Johnson & Higgins to determine the feasibility of establishing a Physician-Owned Medical Society Insurance Company.

The motion was amended to change the assessment from \$10 to \$20 per member.

Action: A motion was made, seconded and voted that each member of the Rhode Island Medical Society would be assessed \$20 to provide, initially, for a study to be made by Johnson & Higgins Company to determine the feasibility of establishing a Physician-Owned Insurance Company.

There being no further business the meeting was adjourned at 5 pm.

Respectfully submitted,
Melvin D. Hoffman, MD
Secretary

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The adverse reactions that may occur are those of the individual ingredients. Doxylamine succinate may cause drowsiness, vertigo, nervousness, epigastric pain, headache, palpitation, diarrhea, disorientation, or irritability. Pyridoxine hydrochloride is a vitamin that is generally recognized as having no adverse effects.

DOSAGE AND ADMINISTRATION

2 Bendectin tablets at bedtime. In severe cases or when nausea occurs during the day: 1 additional Bendectin tablet in the morning and another in midafternoon.

Product Information as of January, 1978

References:

1. Meyer, C.: American Folk Medicine. Scarborough, New York, Plum Books — New American Library, 1975, p. 208.
2. Data on file, MERRELL-NATIONAL LABORATORIES
Division of Richardson-Merrell Inc.
Cincinnati, Ohio 45215

Merrell

MERRELL-NATIONAL LABORATORIES
Division of Richardson-Merrell Inc.
Cincinnati, Ohio 45215, U.S.A.

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Editorials

Surgical Gastroenterology

This issue of the *Journal* is devoted to selected papers from the Surgical Gastroenterology Symposium held at The Miriam Hospital on May 20, 1978. The authors discuss recent developments in diagnosis and management. The topics include new methods in nuclear medicine for the diagnosis of both anatomic and functional aspects of the gastrointestinal tract; occult injury to the organs of the upper abdomen by blunt trauma, an important subject because of the high incidence of trauma in America; experience with highly selective vagotomy, which appears to be safer and more efficacious, and with a lower failure rate, than other types of ulcer operations; the overwhelming impact of cimetidine on the treatment of peptic ulcer; and the management of chronic pancreatitis, which remains a difficult challenge.

There has been a plethora of programs in continuing medical education, many of which have been marginal in their true educational value. Timely and informative programs such as The Miriam Hospital symposium provide a true opportunity for learning and review. We look forward to more such presentations in the future.

Arnold H. Herman, MD

Ambulatory Surgery Project

In March of this year Blue Shield of California, one of the largest plans in the country, released a list of 700 medical and surgical procedures, which it maintains can be safely performed in most circumstances without admitting the patient overnight to a hospital. The list is the basis of the plan's ambulatory surgery project under which justification will be sought from a physician whenever any of the procedures are not performed on an ambulatory basis.

The procedures were selected by the Medical Policy Committee of the plan and

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were reviewed by specialists in each field. Blue Shield of California initially will review on a postpayment basis all claims submitted for these procedures for appropriateness of place of service. The information generated by this review will be used in the beginning for educational purposes. If a patient has been admitted to the hospital and there is no evidence with the claim to suggest that the patient's general condition justified hospitalization, an inquiry will be directed to the physician for additional information. At the present time denial of the hospital claim is not contemplated. However, the plan will conduct a full-scale informational campaign.

Many of the procedures on the list are clearly suitable for ambulatory management. Others, such as inguinal herniorrhaphy (especially in children), dilatation and curettage, and removal of benign breast tumors have only recently been recognized as being safely in this category. The need for general anaesthesia alone is no longer an acceptable criterion for admission.

The advent of ambulatory surgical care facilities has made practical the carrying out of many procedures in this way. Adequate housing, equipment, and personnel are essential. A well manned holding area is necessary when general anaesthesia is utilized.

In Rhode Island there are at the present time only two facilities that meet these criteria — one hospital based at Rhode Island Hospital and the other free-standing and proprietary in the Blackstone Valley. In other cases, for the most part, hospital admission is required if certain of the procedures are to be carried out under hospital auspices.

While the provision of such facilities in hospitals requires space, often a scarce item, and the availability of capital, it is highly desirable that all hospitals make such facilities available.

When this has been accomplished, admission for such cases should be considered as not medically necessary and reimbursement denied. In the long run it will result in substantial savings.

STATEMENT OF OWNERSHIP, MANAGEMENT AND CIRCULATION

(Act of August 12, 1970: Section 3685, Title 39, United States Code)

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Managing Editor: James R. Clarkin, 5 Wedgewood Lane, Barrington, R.I. 02806
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10. Extent and nature of circulation

	Average copies of issue during preceding 12 months	Actual no. of copies of single issue published nearest to filing date
A. Total no. of copies printed (<i>Net press run</i>)	1712	1675
B. Paid circulation		
1. Sales through dealers and carriers, street vendors and counter sales	—	—
1. Mail subscriptions	1428	1372
C. Total paid circulation	1428	1372
D. Free distribution by mail, carrier, or other means		
1. Samples, complimentary, and other free copies	200	200
Copies distributed to news agents, but not sold	—	—
E. Total distribution (<i>Sum of C and D</i>)	1628	1572
F. Office use, left-over, unaccounted, spoiled after printing	84	103
G. Total, (<i>Sum of E and F — should equal net press run shown in A</i>)	1708	1675

11. I certify that the statements made by me above are correct and complete. Seebert J. Goldowsky, MD
12. For completion by publishers mailing at the regular rates (*Section 132.121, Postal Service Manual*)

39 U. S. C. 3626 provides in pertinent part: "No person who would have been entitled to mail matter under former section 4359 of this title shall mail such matter at the rates provided under this subsection unless he files annually with the Postal Service a written request for permission to mail matter at such rates."

In accordance with the provisions of this statute, I hereby request permission to mail the publication named in item 1 at the reduced postage rates presently authorized by 39 U. S. C. 3626.

Seebert J. Goldowsky, MD

Rhode Island Medical Journal

November, 1979

Vol. 62, No. 11



Reye's Syndrome in RI, page 431
Medical Ethics and the AMA, page 462

Newsletter Enclosed

Exchange Office
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A character all its own.



Valium (diazepam/Roche) is a benzodiazepine with a character all its own.

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Another important aspect of the clinical character of Valium is safety. Though drowsiness, ataxia and fatigue are possible, these and more serious side effects are rarely a problem. Of course, as with all CNS-acting drugs, patients taking Valium should be cautioned against driving, operating dangerous machinery or the simultaneous ingestion of alcohol.

Unquestionably, many psychotherapeutic agents, including other benzodiazepines, have antianxiety effects. But one fact remains: you get a certain kind of patient response with Valium. It's a response you want. A response you know. A response you trust as part of your overall management of anxiety and psychic tension.

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Indications: Tension and anxiety states; somatic complaints which are concomitants of emotional factors; psychoneurotic states manifested by tension, anxiety, apprehension, fatigue, depressive symptoms or agitation; symptomatic relief of acute agitation, tremor, delirium tremens and hallucinosis due to acute alcohol withdrawal; adjunctively in skeletal muscle spasm due to reflex spasm to local pathology; spasticity caused by upper motor neuron disorders; athetosis; stiff-man syndrome; convulsive disorders (not for sole therapy).

The effectiveness of Valium (diazepam/Roche) in long-term use, that is, more than 4 months, has not been assessed by systematic clinical studies. The physician should periodically reassess the usefulness of the drug for the individual patient.

Contraindicated: Known hypersensitivity to the drug. Children under 6 months of age. Acute narrow angle glaucoma; may be used in patients with open angle glaucoma who are receiving appropriate therapy.

Warnings: Not of value in psychotic patients. Caution against hazardous occupations requiring complete mental alertness. When used adjunctively in convulsive disorders, possibility of increase in frequency and/or severity of grand mal seizures may require increased dosage of standard anticonvulsant medication; abrupt withdrawal may be associated with temporary increase in frequency and/or severity of seizures. Advise against simultaneous ingestion of alcohol and other CNS depressants. Withdrawal symptoms (similar to those with barbiturates and alcohol) have occurred following abrupt discontinuance (convulsions, tremor, abdominal and muscle cramps, vomiting and sweating). Keep addiction-prone individuals under careful surveillance because of their predisposition to habituation and dependence.

Usage in Pregnancy: Use of minor tranquilizers during first trimester should almost always be avoided because of increased risk of congenital malformations as suggested in several studies. Consider possibility of pregnancy when instituting therapy; advise patients to discuss therapy if they intend to or do become pregnant.

Precautions: If combined with other psychotropics or anticonvulsants, consider carefully pharmacology of agents employed, drugs such as phenothiazines, narcotics, barbiturates, MAO inhibitors and other antidepressants may potentiate its action. Usual precautions indicated in patients severely depressed, or with latent depression, or with suicidal tendencies. Observe usual precautions in impaired renal or hepatic function. Limit dosage to smallest effective amount in elderly and debilitated to preclude ataxia or oversedation.

Side Effects: Drowsiness, confusion, diplopia, hypotension, changes in libido, nausea, fatigue, depression, dysarthria, jaundice, skin rash, ataxia, constipation, headache, incontinence, changes in salivation, slurred speech, tremor, vertigo, urinary retention, blurred vision. Paradoxical reactions such as acute hyperexcited states, anxiety, hallucinations, increased muscle spasticity, insomnia, rage, sleep disturbances, stimulation have been reported; should these occur, discontinue drug. Isolated reports of neutropenia, jaundice; periodic blood counts and liver function tests advisable during long-term therapy.

Dosage: Individualize for maximum beneficial effect. **Adults:** Tension, anxiety and psychoneurotic states, 2 to 10 mg b.i.d. to q.i.d.; alcoholism, 10 mg t.i.d. or q.i.d. in first 24 hours, then 5 mg t.i.d. or q.i.d. as needed; adjunctively in skeletal muscle spasm, 2 to 10 mg t.i.d. or q.i.d.; adjunctively in convulsive disorders, 2 to 10 mg b.i.d. to q.i.d. **Geriatric or debilitated patients:** 2 to 2½ mg, 1 or 2 times daily initially, increasing as needed and tolerated. (See Precautions.) **Children:** 1 to 2½ mg t.i.d. or q.i.d. initially, increasing as needed and tolerated (not for use under 6 months).

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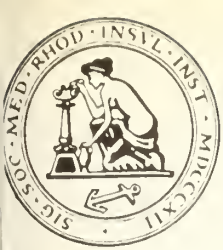
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Rhode Island Medical Society

NEWSLETTER

James R. Clarkin, *Editor*

November, 1979

Report of the Sub-Committee on SHCC

The Rhode Island Medical Society supports the idea of health planning and some of the recommendations and strategies in the Preliminary State Health System Plan, tentatively approved by the Statewide Health Coordinating Council (SHCC). However, the Society believes that there are *several* recommendations of the Plan which, if adopted and implemented, would *adversely* affect the delivery of health care in Rhode Island. The Society will base its final position on some of the following points:

- 1) Although there are four physicians on the SHCC, these do not represent any organization. Therefore the vast majority of physicians in the state are not represented and have had absolutely no input to the SHCC Plan.
- 2) The public has not had an adequate input to the Plan. The Plan recommends a radical change in the thrust of medical care in the state. The Plan should not be approved without in-depth ascertainment of the public's views of Rhode Island's health care needs.
- 3) RIMS challenges the Department of Health position that the SHCC planning staff has not recommended adoption of HMO hospital utilization rates as targets for the Rhode Island population. While these and other HMO statistics have perhaps not been "adopted," they have certainly been utilized throughout the Plan to support recommendations. RIMS stresses that (a) HMO's enroll select populations; (b) data is inconclusive concerning the reasons for cost savings in HMO's and whether savings may be at the expense of quality of care.
- 4) There are other statistical problems with the Plan (i.e., reliance on pre-1975 data for Rhode Island; relating hospital expenditures to per capita income).
- 5) The experience of voluntary efforts to improve health care delivery (i.e., the ambulatory surgery program) have been ignored by the planners. Such are real, tried efforts which should be looked at for lessons in health planning for the real world.
- 6) Voluntary efforts by health care providers have been and are continuous (i.e., presently proposed IPA).
- 7) In its long-range implications the Plan proposes a) rationing of health care; (b) a potentially cost-ineffective system; both undesirable.
- 8) The Plan does not consider the patient.

Do you stress to your patients that the emergency room is only for emergencies; that they should call you first if they are uncertain of the need for ER services?

What They're Saying . . .

Charles C. Edwards, MD, former top federal health official, now with the Scripps Clinic and Research Foundation, LaJolla, California, says:

"Wholesale federal regulation of the American health care system would fail to solve its economic problems and would be the most destructive, repressive, and reactionary step ever taken in the name of advancing the health of the people of this country.

"At a minimum, such a regulatory program would lower the quality of health care to the level of mediocrity. There would be no opportunity for any institution to seek excellence, to explore new paths of health care delivery, to attract innovative personnel or even to do away with outmoded practices.

"The system would become so standardized and so bound up in rules dictated from Washington that change would be virtually impossible and the struggle to win approval for something other than the prescribed norm would dissuade anyone from making the effort."

The October, 1979 *Newsletter* listed proposed dates for the public hearings on the SHCC Plan. The dates have since been revised. The corrected schedule is as follows:

- Westerly
Westerly High School
Wednesday, January 2, 1980
- Newport
Newport Council Room
Thursday, January 3, 1980
- Providence
RI Department of Health Auditorium
Tuesday, January 8, 1980
- Woonsocket
Woonsocket High School
Wednesday, January 9, 1980
- Warwick
Community room in public safety building behind Warwick Town Hall in Apponaug
Thursday, January 10, 1980
- Kingston
Chafee Hall, URI
Wednesday, January 16, 1980
- Pawtucket
Tolman High School
Thursday, January 17, 1980

Please contact Dr. Charles E. Millard, 1180 Hope Street, Bristol, RI 02809, 253-8900 for more information on the hearings.

State Boards for Physician Matters

The Rhode Island Board of Examiners in Medicine is one of twenty-one boards of the Division of Professional Regulation within the State Department of Health. Its main function is to issue licenses for physicians (MDs) who wish to practice medicine in Rhode Island. It has a membership of three physicians, which currently include a family practitioner, a surgeon, and a pediatrician. The Division of Professional Regulation is administered by Mr. Robert W. McClanaghan (277-2827). It has the right of subpoena.

Recertification is a newly added function of this licensing board. To assist in the setting of standards for recertification, the Rhode Island Medical Society, by law, is authorized to establish continuing medical education (CME) criteria for recertification; and it has determined that 60 CME credits be earned each three-year period by

physicians desiring to be recertified. The first recertification date is January 1, 1980. Physicians are licensed yearly and recertified every three years.

In 1976 the Board of Medical Review was created by legislation. It is a separate entity autonomous under the Governor. It is the disciplinary arm of the state for physicians and osteopaths. The Board of Medical Review has nine members, which include five MDs; one hospital administrator; two public members, one of whom shall be an attorney; and the Director of the Department of Health, or his designee, who shall be a non-voting member. This board is administered by Miss Margaret-Joyce Diamond (277-3855). It has the right of subpoena.

In 1979 the Rhode Island General Assembly enacted the so-called Sunset Law. The law established a Legislative Oversight Committee to review, annually, with the help of the Auditor General all state boards and commissions and their functions. The Legislative Oversight Committee will report its recommendations by June 1st each year. The first report is to be submitted in 1980.

Peter L. Mathieu, Jr., M.D.

CME for Relicensure

The deadline for submission of the summary sheet of CME activities for certification of your triennial registration with the Rhode Island Board of Examiners in Medicine is *December 31, 1979*. If you have questions or need help with the preparation of this form, call Karen Challberg, 331-3207.

Officers, 1980-1981

If you wish to recommend a member for office in the Rhode Island Medical Society, please contact your district society president or councillor, who will forward your recommendation to the nominating committee. Your recommendations will be valued.

Peripatetics

Local physicians recently named Fellows of the American College of Cardiology are **Abdul H. Kahn, MD** and **Arun K. Singh, MD**.

At the recent state medical journal conference sponsored by the State Medical Journal Advertising Bureau, in Newport, Rhode Island, **Charles L. Hill, MD** and **Seebert J. Goldowsky, MD** delivered introductory addresses. At the same conference **Stanley M. Aronson, MD** spoke on the relationships between a medical school and a state medical journal.

William J. H. Fischer, MD has retired as director of medical education at Rhode Island Hospital. He is succeeded in this position by **Edward Iannuccilli, MD**.

On June 23, 1979, **Charles E. Millard, MD** was ordained a Deacon in the Roman Catholic Church, the first physician in the state to achieve this rank.

Irving Beck, MD has been elected president of the American Osler Society.

Pediatrician-in-chief at Women & Infants Hospital, **William Oh, MD**, has been elected to membership of the Council for the Basil O'Connor Research Starter Grant of the March of Dimes.

Stephan I. Frater, MD and **Daniel J. Hanson, MD** were recently named Fellows of the American College of Radiology.

Bertram H. Buxton, Jr., MD has accepted a post as chief of the gynecological division of the department

of obstetrics and gynecology at the University of Tennessee.

New assistant director of inpatient services at Bradley Hospital is **Charles E. Staunton, MD**.

Henry T. Randall, MD is serving a second term as president of the American Cancer Society. Dr. Randall recently retired from the position of surgeon-in-chief at Rhode Island Hospital.

Donald S. Gann, MD assumed the position of chief of surgery at Rhode Island Hospital on July 1, 1979.

John J. Cunningham, MD has been elected Vice Chairman of the New England Delegation of the American Medical Association. Dr. Cunningham is the Rhode Island Delegate to the AMA House of Delegates.

Mary B. Lekas, MD has been appointed program director, Rhode Island Hospital Residency Program in Otolaryngology. She is also the new vice president and president-elect, New England Otolaryngological Society; vice president, Rhode Island Otolaryngological Society; and member of the Council of the American College of Surgeons, Rhode Island Branch. She has also been reappointed a member, Alumni Council, Clark University, Worcester, Massachusetts for a second three-year term.

New Fellows of the American College of Surgeons are **Ghazi Accaoui, Salvatore G. Azzoli, Steven I. Cohen, Stephen D. Deutsch, Joseph A. Latina, Toussaint A. Leclercq, John F. Maynard, Robert A. Rosenfeld, MDs**.

Newly elected president of the Rhode Island Chapter of the American College of Surgeons is **Martin E. Felder, MD**.

President's Page

Proposed Independent Practice Association

As responsible medical leaders in the state, our participation in an Independent Practice Association (IPA) presently being proposed in Rhode Island is vital to obtain significant local data to evaluate the movement toward prepaid medical programs. Investigating comments from proponents of both HMO programs and the conventional fee for service system, we find statistics inadvertently weighted to prove desired conclusions, with such factors as socioeconomic status, local cost of living, and age distribution evaluated inconsistently from study to study. Therefore, we have an opportunity and, I believe, an obligation to investigate ourselves alternative forms of medical care purported to be cost effective while maintaining quality.

This approach is not without precedent. Thirty years ago the Society embarked on a social experiment called Rhode Island Physicians Service (now Blue Shield of Rhode Island). We have learned much from the success of this plan, and even the antagonists admit the benefits to the community with no compromise in quality of care.

The plan would be run by a Board of Directors — the majority of whom would be physicians. The administrators would be hired by, and be responsible to, this board. Physicians would continue to practice in their own geographical areas, and would sign a one-year contract to accept plan members on a per capita basis. The risk would be minimal, since typically less than 5 per cent of the population initially participates in such programs. A physician could resign at any time with a reasonable notification.

Why should we participate?

The health planners have influenced the legislators to believe that prepaid programs have the best chance to reduce health care costs. Opponents have no hard facts to refute this. Present laws require HMO alternatives for employees. Other types of cost controls are being imposed that frequently cause a rationing of health care. As physicians we have an obligation to join together to

maintain a healthy system as well as a healthy patient.

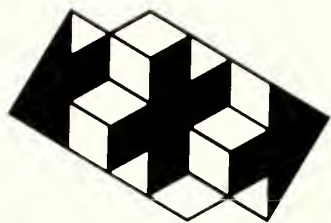
The controls are becoming more overt — the latest a total cost assigned to specific diagnoses which would include the charges for drugs, hospitalization, laboratory studies, and physicians' services.

What changes will the physician notice? The success of other plans has been related to the reduction in hospital and laboratory use. Such reduction has been challenged as resulting in under-utilization and compromise of quality. Therefore, an integral part of the plan must be strict peer review, which will require changes in practice patterns. Although many established practitioners may fear this prospect, our local experience in ambulatory surgery has shown more use with reduced costs and no compromise of quality. To be candid, either we can have controls evaluated and modified by ourselves, or else there will be controls imposed by well-meaning persons with no experience in the trenches. We can help to provide a cost-effective system, and not be self-serving. The economic position of the sincere, socially adaptable physician has been and will be maintained with the continuance of quality care, and the respect of the community.

Charles L. Hill, MD

A total of 182 new HMO and IPA plans are now developing. Only 82 plans are using Federal grants from HEW. A variety of private organizations are currently sponsoring the rest. The latest Office of Health Maintenance Organizations (OHMO — DHEW) Survey found a total of 49 providers, 30 insurers, 10 consumer organizations, 7 businesses, and 4 unidentified groups in some stage of HMO development without any Federal funding.

. . . from *HMO Focus*, Volume 2,
Number 6, October, 1979



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MESSAGE FROM THE DEAN

The 1979 United States Medical School Student Graduates

The Association of American Medical Colleges (AAMC), at yearly intervals, polls the most recent cohort of US medical school graduates in an attempt to generate some sort of distinguishing profile of those about to enter the medical profession, and to identify their professional directions. About two-thirds of the recent graduates participate, and the responses may, therefore, be viewed as representative of the latest contingent of physicians. The AAMC provides each medical school with the results of the yearly survey, comparing their local graduates with the nationally-derived data. This information is typically expressed in numerical terms, and I have tried to select those quantitative responses yielded by the Brown graduates which are statistically distinctive when compared with national means.

The initial questions pertained to electives taken prior to graduation. The Brown graduate, on average, took 20 per cent more clinical electives than his peers in other US medical schools. In further contrast to the national averages, the Brown students enrolled in many more nonsurgical electives, (particularly internal medicine sub-specialties). This parallels the experience that we have noted amongst the five classes of physicians which Brown has graduated during this decade. Amongst that population of 302 men and women, 118 (38.4 per cent) are training (or trained) in internal medicine, while but 12.7 per cent are training in surgery.

While 38 per cent of the national medical school population enrolled in ambulatory care clerkships while in medical school, about 57.5 per cent of Brown students were so engaged.

A further observation of interest pertains to

medical student participation in research activities. Close to one out of every two of the Brown students currently participates as an investigator in some clinically oriented research (and of these, one-half have published their research); this is in contrast to a 24 per cent research participation for the national population of graduating physicians.

There are quantitative distinctions between Brown graduates and national graduates in terms of specialty preference. Brown graduates tend to be more interested in internal medicine, pediatrics, neurology, and ophthalmology, while showing a lower interest in obstetrics, psychiatry, surgery, and radiology.

The undergraduate medical school interest in research exhibited by about half of our students may very well prevail in the years beyond graduation. When asked, close to one-half of all Brown graduates said that they intended to include a research fellowship in their graduate medical education plans (only about 23 per cent of the national group indicated a similar preference). The Brown graduates, however, specified clearly that their interest was in the research aspects of clinical medicine rather than the basic sciences; and when asked about *ultimate* postgraduate career plans, 17.5 per cent of the Brown graduates hoped for a substantive involvement in clinical research (the national mean was 8.5 per cent).

The graduates were queried about the category of career activity they anticipated for themselves. A substantial fraction of the Brown graduates (42.5 per cent) listed clinical science teaching as comprising a major part of their future professional activity. The

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national mean for this projection was 29.6 per cent. Fifty per cent of the Brown graduates were planning for a private clinical practice career (national mean, 66 per cent); interestingly, 10 per cent of the Brown graduates were thinking of salaried careers in health maintenance organizations (national average, 4.3 per cent).

Sixty-five per cent of the Brown graduates indicated that they wished to practice in the northeast (for the national group, 25.2 per cent).

Of the current medical school graduates, 22.5 per cent of the Brown students are married, while nationally 42.8 per cent are married. Ten per cent of the married Brown graduates have children; nationally, the frequency is about 14 per cent.

The spouses of the Brown cohort appear to be more deeply involved in professional activities. Some 35.7 per cent of the Brown physicians' spouses are currently attending graduate or professional school (nationally, 16.7 per cent). Indeed, one out of every two Brown spouses is enrolled currently in some post-secondary educational program (and of these, 57.2 per cent are medical students or medical graduates).

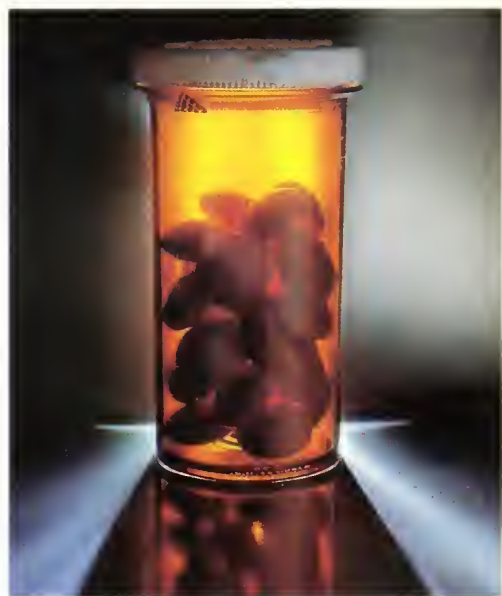
About 55 per cent of the Brown graduates undertook educational loans to finance their education (nationally, 72.3 per cent); and 15 per cent of our graduates received armed forces or public health service scholarships (nationally, 11.9 per cent) and will, therefore, be required to undertake some sort of national service to fulfill their commitment.

Finally, when compared to the national population, our Brown students seemed to have taken fewer leaves of absence, extended vacations, or other interruptions to their studies. A recent analysis of our last five classes also indicates that the attrition rate of those matriculating in and graduating from Brown University continues to be startlingly low.

If this information is reliable in predicting the future of our medical graduates, it would appear that they will exert a greater influence upon academic medicine than the mere weight of their numbers would indicate.

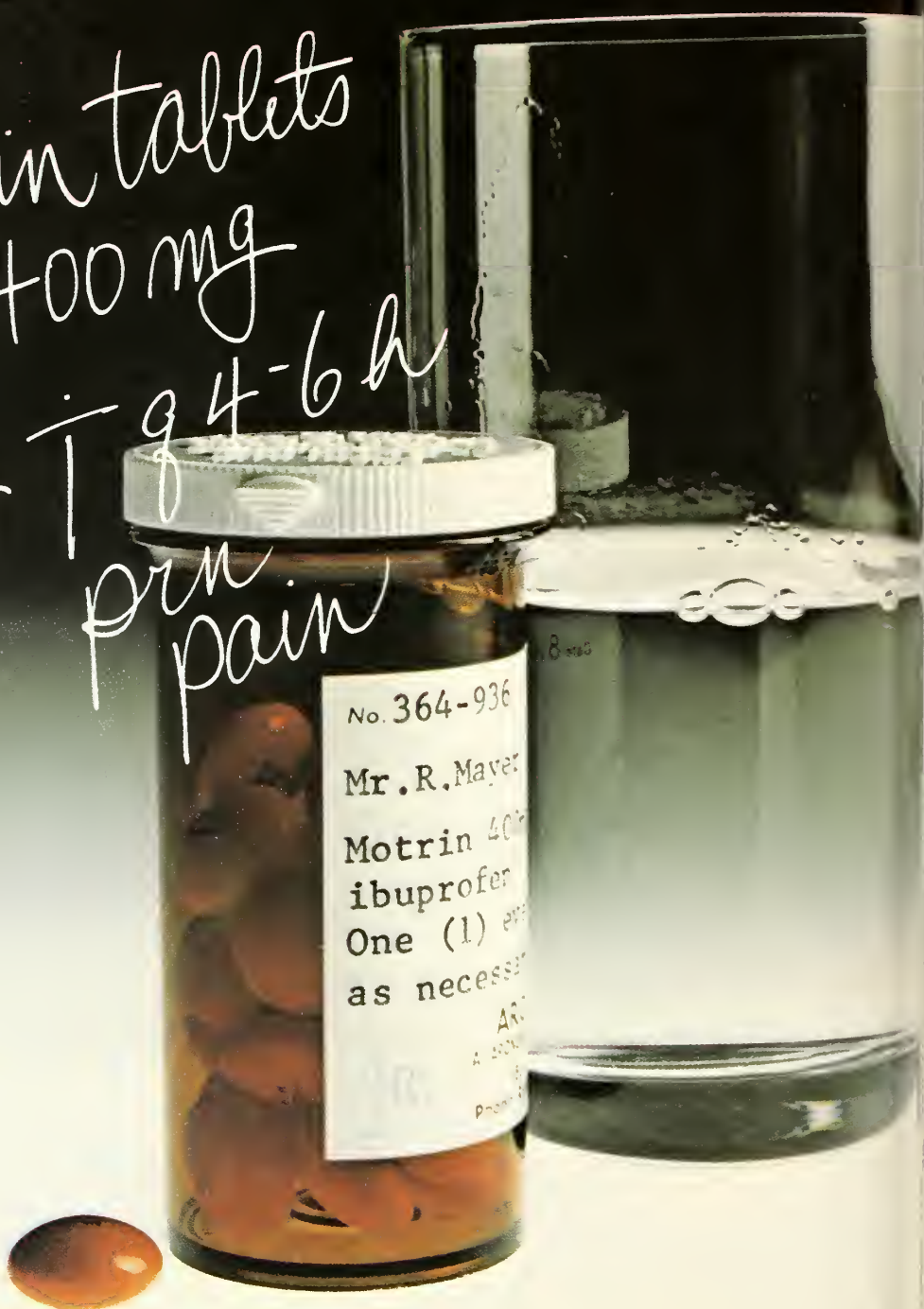
Stanley M. Aronson, MD
Dean of Medicine
Brown University

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*0 = No relief 1 = Partial relief 2 = Complete relief

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Warnings: Anaphylactoid reactions have occurred in patients with aspirin hypersensitivity (see CONTRAINDICATIONS).

Peptic ulceration and gastrointestinal bleeding, sometimes severe, have been reported. Ulceration, perforation, and bleeding may end fatally. An association has not been established. Motrin should be given under close supervision to patients with a history of upper gastrointestinal tract disease, only after consulting ADVERSE REACTIONS.

In patients with active peptic ulcer and active rheumatoid arthritis, nonulcerogenic drugs, such as gold, should be tried. If Motrin must be given, the patient should be under close supervision for signs of ulcer perforation or gastrointestinal bleeding.

Precautions: Blurred and/or diminished vision, scotomata, and/or changes in color vision have been reported. If these develop, discontinue Motrin and the patient should have an ophthalmologic examination, including central visual fields.

Fluid retention and edema have been associated with Motrin; use with caution in patients with a history of cardiac decompensation.

Motrin can inhibit platelet aggregation and prolong bleeding time. Use with caution in persons with intrinsic coagulation defects and those on anticoagulant therapy.

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*Incidence 3% to 9%.

Incidence less than 1 in 100

Gastrointestinal: Upper GI ulcer with bleeding and/or perforation, hemorrhage, melena.

Central Nervous System: Depression, insomnia. **Dermatologic:** Vesiculobullous eruptions, urticaria, erythema multiforme. **Cardiovascular:** Congestive heart failure in patients with marginal cardiac function, elevated blood pressure. **Special Senses:** Amblyopia (see PRECAUTIONS). **Hematologic:** Leukopenia, decreased hemoglobin and hematocrit.

Causal relationship unknown

Gastrointestinal: Hepatitis, jaundice, abnormal liver function. **Central Nervous System:** Paresthesias, hallucinations, dream abnormalities. **Dermatologic:** Alopecia, Stevens-Johnson syndrome. **Special Senses:** Conjunctivitis, diplopia, optic neuritis. **Hematologic:** Hemolytic anemia, thrombocytopenia, granulocytopenia, bleeding episodes. **Allergic:** Fever, serum sickness, lupus erythematosus syndrome. **Endocrine:** Gynecomastia, hypoglycemia. **Cardiovascular:** Arrhythmias. **Renal:** Decreased creatinine clearance, polyuria, azotemia.

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Reye's Syndrome in Rhode Island

Definitive Care Demands A Multispecialty Approach Available Only In A Tertiary Care Center

By Philip Brunquell, MD

In 1963 Reye, Morgan and Baral defined a clinicopathological entity of childhood consisting of encephalopathy with fatty degeneration of the viscera.¹ Since then there has been much speculation as to the etiology, pathogenesis, and management of Reye's syndrome. The purpose of this report is to review some of the current thinking in these matters and to outline the six-year experience of the Pediatric Intensive Care Unit at Rhode Island Hospital in treating children with the disease.

Illustrative Case

The patient was a 14 10/12 year old white girl who lives on a farm in Rhode Island. She was in her usual state of good health until 5 days prior to admission, when she developed a mild sore throat unaccompanied by cough or coryza. Two days prior to admission she began vomiting, for which she was given Tigan® suppositories by her local physician. The vomiting persisted despite the medication, and on the day of admission she became confused, delirious, and combative. There was no history of toxin ingestion, although she had recently been applying a polyglycol fly repellent to several farm animals.

PHILIP BRUNQUELL, MD, *Chief Resident in Pediatrics, Rhode Island Hospital, Providence, Rhode Island; Teaching Fellow in Pediatrics, Brown University, Providence, Rhode Island.*

She was brought to Rhode Island Hospital where physical examination revealed a well-developed girl with vital signs: temperature 97.4 F (36.7C) axillary, blood pressure 144/110, pulse 140, respirations 36. She withdrew to painful stimuli but was unresponsive to commands. Pupils were mid-position and reactive to light; corneal reflexes were intact. Eye movements were occasionally dysconjugate; the fundi were normal. Babinski signs were absent, but deep tendon reflexes were diffusely hyperreactive. Laboratory studies showed normal blood urea nitrogen, creatinine, glucose and electrolytes. Serum NH₃ was 396 mcg per cent, osmolarity 310, SGOT 202 U, PTA 42 per cent of control. Hematocrit was 44 per cent, white blood count 14,100 with 56 per cent neutrophils, 11 band forms, and 22 lymphocytes. Venous pH 7.32, pO₂ 72, pCO₂ 26. Computerized axial tomography (CAT) showed generalized brain edema. Electroencephalogram (EEG) indicated generalized high-voltage, slow wave activity with periods of burst-suppression activity. Serum and urine toxicology screen and acute and convalescent viral seriology eventually proved negative. Further data are noted in Figure 1.

The patient was admitted to the Pediatric Intensive Care Unit where radial artery and central venous pressure (CVP) lines were inserted, and a Foley catheter was introduced. She was intubated and placed on a T-tube. Intravenous administration of mannitol and

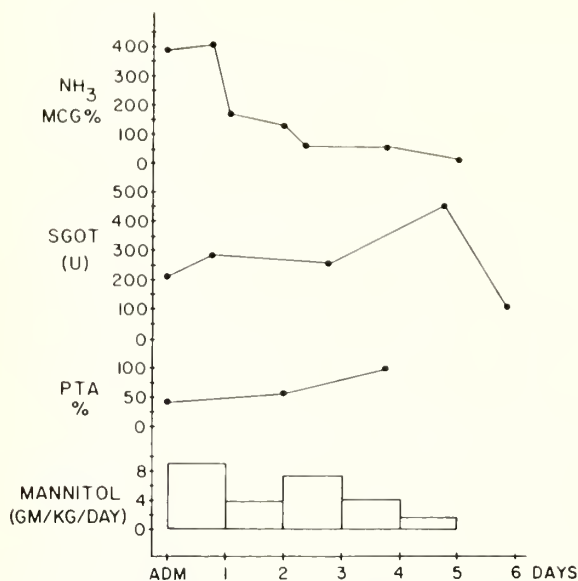


Figure 1. Laboratory and osmotherapy data of a patient with Reye's syndrome.

Decadron® was begun. Saline cleansing enemas were followed by rectal instillations of lactulose. Neomycin and an antacid were administered via a nasogastric tube and Vitamin K and fresh frozen plasma were given parenterally.

Over the next several hours the patient's neurological status deteriorated with evidence of decerebrate posturing and profound episodes of opisthotonos. She was hyperventilated manually and given further mannitol while the neurosurgeon inserted a subdural intracranial pressure (ICP) monitor through a burr hole. The procedure was performed at the bedside under local anesthesia. Neuromuscular blockade was effected with pancuronium, and the patient was simultaneously sedated with phenobarbital; respirations were then controlled with a mechanical ventilator. ICP was kept below 20 mmHg with manual hyperventilation and failing that incremental doses of mannitol. Fluid losses incurred by the osmotic diuresis were met by infusions of extracellular replacement fluid to maintain the CVP in the low physiologic range.

Fluid balance was further adjusted in an attempt to keep cerebral perfusion pressure greater than 50 mmHg and serum osmolarity in the range of 310-320. Neuromuscular blockade was lifted hourly to assess the neurologic status of the patient. Brainstem and deep tendon reflexes remained intact throughout the period of monitoring.

By the 6th hospital day the ICP remained low without intervention. Neuromuscular blockade was discontinued, spontaneous respirations resumed, and the patient was placed back on the T-tube. Early the next day the subdural monitor was withdrawn, the patient was extubated, and all lines except a peripheral intravenous were removed. Her movements became increasingly purposeful, although a left hemiparesis was noted. On the 8th hospital day she was able to ambulate with assistance. Her speech and mental status gradually became coherent, and by the 12th hospital day she was ambulatory without assistance and signs of the left-sided weakness had resolved. She was discharged home on the 14th hospital day in good health.

Discussion

The biphasic evolution of this patient's illness is characteristic of Reye's syndrome. Typically, the disease begins with a trivial prodrome, ie an upper respiratory infection, varicella, or a bout of gastroenteritis. This is followed in several days by an encephalopathic state, which begins with intractable vomiting and lethargy and may progress through agitated delirium to coma and even death. It is common to find that many of these children have been treated with an antiemetic medication early in their course. This is unfortunate, because compounds such as trimethobenzamide and prochlorperazine may produce neurologic signs which mimic Reye's syndrome, and there is some evidence that these drugs may even participate in the evolution of the illness. The liver dysfunction associated with Reye's syndrome may reduce the clearance of these drugs and thereby augment their adverse effects.

The history of the patient's exposure to fly repellent is worthy of mention. Although polyglycols have not until now been implicated as etiologic factors, there is some suggestion that other insecticides may play a role. Crocker, for example, has found an increased incidence of the disease in areas of New Brunswick where spraying with an organophosphorous insecticide had occurred.² Other toxins, both exogenous (eg, aflatoxin, salicylates) and endogenous (eg, ammonia, free fatty acids), have been implicated in the genesis of the syndrome, but none with convincing proof.

The observations that the disease is associated with a viral-like prodrome and is often

seen with outbreaks of influenza and chicken pox suggest that viruses may be causative, although these agents are infrequently recovered from autopsied material. It is more likely that a synergistic combination of virus and toxin may be playing a role. A Reye's-like syndrome, for instance, has been produced in mice that were given a sub-lethal dose of encephalomyocarditis virus and then exposed to insecticides containing detergent emulsifiers.² Other etiologic possibilities include genetic susceptibility and an interplay of this susceptibility with viral or toxic factors. Again, convincing proof for any of these theories is lacking.

On admission the neurologic status of the patient can be staged for both diagnostic and prognostic purposes. The system we employ is that suggested by Lovejoy (Table 1), because it is the most descriptive and hence lends itself to ready application at the bedside. It also allows for correlation of clinical with biochemical findings.³ Our patient presented in Stage II and rapidly progressed to Stage IV.

Table 1. Reye's Syndrome: Clinical Stages³

- | | |
|------|---|
| I. | vomiting, lethargy, sleepiness, laboratory evidence of liver dysfunction |
| II. | disorientation, delirium, combativeness, hyperventilation, hyperactive reflexes, appropriate response to noxious stimuli, liver dysfunction |
| III. | obtundent, coma, hyperventilation, decorticate rigidity, preservation of pupillary light reflexes and oculovestibular reflexes, continued laboratory evidence of liver dysfunction |
| IV. | deepening coma, decerebrate rigidity, loss of oculocephalic reflexes (often asymmetric), large fixed pupils (with hippus on occasion), dysconjugate eye movements in response to caloric stimulation, minimal liver dysfunction — Often other evidence of brainstem dysfunction, eg, loss of corneal reflex, is absent. |
| V. | seizures, loss of deep tendon reflexes, respiratory arrest, flaccidity — Liver function tests are often normal in this stage. |

NB: All stages are associated with an abnormal EEG.

Although outcome has been shown to be inversely related to the stage at presentation, a rapid progression through the early stages of the illness is also a poor prognostic sign. Ominous findings in addition to this patient's fulminant course included her serum ammonia level, EEG pattern, and clinical and radiographic (CAT) evidence of increased intracranial pressure⁴⁻⁶ (Table 2). The purpose of assembling such indicators as soon as possible after admission is that a more aggressive therapeutic approach may be planned for those at higher risk.

Table 2. Poor Prognostic Factors in Reye's Syndrome

- | | |
|----|---|
| 1. | ammonia greater than 300 mcg% |
| 2. | very rapid progression through the early stages |
| 3. | seizures |
| 4. | severe metabolic acidosis |
| 5. | severe respiratory alkalosis |
| 6. | elevated cerebrospinal fluid (CSF) pressure |
| 7. | CPK isoenzyme profile suggesting both hepatic and skeletal muscle involvement |

The EEG staging of Reye's syndrome, as first described by Aoki and Lombroso,⁷ has resulted in better understanding of the clinical evolution of the illness. Briefly, they showed that the EEG may progress through five grades of abnormality before reaching the point of electrocerebral silence. In their original series all patients with grades 1 and 2 EEGs survived, and all those with grades 4 and 5 died. Among those with grade 3, about half lived and half died. Furthermore, a dissociation between clinical stage and EEG grade can occur, as was the case with this patient. Although she was initially grade 2, her simultaneous EEG was grade 3 to 4, signalling the need for the aggressive approach outlined above.

Many investigators have recommended confirming the diagnosis of Reye's syndrome with liver biopsy, primarily to validate the need for an exchange transfusion. In addition to the risks of bleeding and infection, exchange transfusion may be associated with dangerous rises in intracranial pressure.⁸ Furthermore, Corey in his analysis of the records of 369 cases

submitted to the Center for Disease Control in Atlanta found no difference in survival between those treated with exchange versus intensive supportive care alone.⁹ For these reasons we have abandoned the use of exchange transfusion and thus are not compelled to obtain a liver biopsy. We rely instead on clinical and biochemical criteria for diagnosis. In our unit any patient with a characteristic history, elevated SGOT and ammonia, and prolonged prothrombin time, who in addition has normal bilirubin and no other explanation of the clinical and laboratory findings, is considered to have the disease. Vigorous attempts must therefore be made to exclude diseases which may masquerade as Reye's syndrome. Serum and urine toxicologic analyses and acute and convalescent viral serologies are obtained. If the patient is afebrile, and there is no nuchal rigidity, a lumbar puncture (LP) is deferred until the liver function studies are obtained. If the clinical and biochemical findings suggest Reye's, an LP is not performed based on observations that the procedure appears to affect the outcome adversely.⁵ Other investigations (amino acid profile, hepatitis associated antigen (HAA), and others) are performed as indicated by the historical, physical, and laboratory screening data.

The therapeutic regimen described above represents our present approach to children with advanced stages of the disease. It has been refined from our initial management experiences (1973-1977) and tailored by many of the suggestions made in the current literature. The neomycin and lactulose serve to decrease ammonia absorption from the gut. Vitamin K and fresh frozen plasma are given to compensate for the coagulopathy secondary to hepatic dysfunction. Fluid restriction, hyperventilation, osmotherapy, and steroids are intended to reduce cerebral edema, intracranial pressure, or both, although proof for the efficacy of steroids in this setting is lacking. Invasive care, as defined by the introduction of a subdural monitor, arterial and central venous lines, and institution of neuromuscular blockade and mechanical respiratory control, is reserved for those patients who 1) are in clinical Stage 3 or greater, 2) are in clinical Stage 2 but have an EEG of grade 3 or greater, or 3) are in clinical Stage 2 but have several of the markers for a poor prognosis. Management of the patient at this level is extremely complex,

particularly in terms of fluid balance, respiratory control, and neurologic assessment. Details of this advanced program of care, as well as supplemental therapeutic maneuvers for refractory cases, are discussed elsewhere.¹⁰ Because the status of these patients is so fragile and the various therapeutic modalities are not without risk, all patients should be transferred to an intensive care unit that is staffed by a Reye's team which can be summoned immediately and remain round-the-clock at the patient's bedside until the disease has resolved.

Although supplementing intensive supportive care with intracranial pressure monitoring has not yet been shown unequivocally to improve survival, its use is predicated on several grounds. First, *in vivo* observations have shown that dangerous rises in intracranial pressure may precede the appearance of clinical signs.^{8, 11-13} Thus, the monitor may signal the need for therapy before an intractable pressure wave is established. Secondly, the terminal event in many of these patients is brain herniation secondary to progressive cerebral edema. Controlling the edema, as in our patient, may allow sufficient time for re-establishment of the structural and functional integrity of the involved organ systems. Finally, monitoring allows for more selective and goal-directed use of therapeutic modalities such as hyperventilation and osmotherapy. Many of the adverse effects of such therapy may thereby be avoided.

The Case in Context

From January 1973 until January 1979 the Pediatric Intensive Care Unit at Rhode Island Hospital treated 16 patients with Reye's syndrome. The age range was 2 11/12 to 4 9/12 years, which is typical for the disease, although recently it has been observed in infants as well.¹⁴ Previous reports suggest that for children greater than one year of age whites are more susceptible.² Notably, all of our patients fall into this category. The female to male ratio was 2.2 to 1, which is different from most series which suggest an equal sex ratio.² Most of the girls (seven of eleven) were in pre- to early adolescent age group. The significance of this finding is unknown, although one is apt to question a hormonal influence on susceptibility.

The times of presentation are shown in Figure 2. Most cases were noted to occur from

December through April with February being the peak month. This coincidence of Reye's syndrome with the season for influenza has previously been well documented.¹⁵ Sixty-nine per cent of all the cases were accompanied by a respiratory prodrome, as were virtually all of the cases presenting from December through March. Twenty-five per cent of the cases were associated with varicella.

The demographic distribution of patients is shown in Figure 3. Only one case occurred in Providence. This coincides with the findings of others that most reports of Reye's syndrome beyond the infancy period occur in suburban or rural settings.¹⁶ In our sample no recurrences or sibling involvement are known.

Mortality during the first four of the six years was 50 per cent (five of ten patients). Treatment methods included peritoneal dialysis (2 patients), exchange transfusion (9 patients), hypothermic total body washout (2 patients), and intensive supportive care without intracranial pressure monitoring (1 patient). During the last two years treatment consisted of intensive supportive care with intracranial monitoring as described above. Mortality during this period was 33 per cent (two of six patients). Because of the multiple variables involved and our small sample size, we cannot attribute this difference to any one diagnostic or therapeutic maneuver. An increased awareness of the complex subtleties of management has, however, been appreciated and serves as a basis for on-going refinement of our protocol.

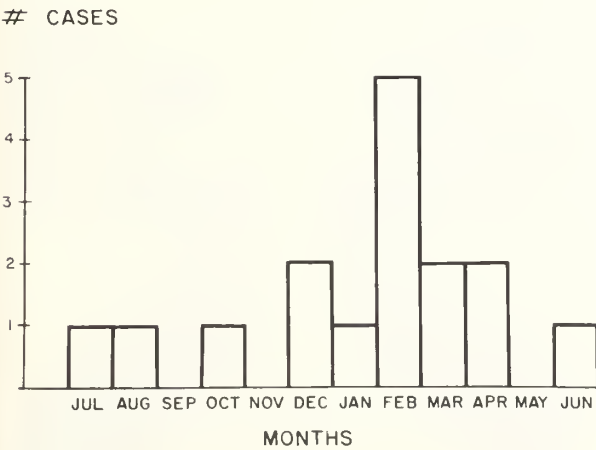


Figure 2. Monthly presentation of children with Reye's syndrome to Rhode Island Hospital (January 1973 through January 1979).

Toward the Future

Progress in the therapy of Reye's syndrome may come as a greater understanding of its pathogenesis is reached. One of the more promising hypotheses is that it represents a mitochondrial disease.¹⁶ Electron micrographs of tissues of patients with Reye's syndrome are notable for mitochondrial swelling and disorganization. Enzyme activity assays of these tissues show deficiencies of enzymes associated with the mitochondria as opposed to those associated with the cytosol. Serum amino acid levels may in turn reflect some of these deficiencies. Many of the other biochemical findings such as hyperammonemia, free fatty acidemia, and lactic acidosis may likewise be explained by loss of mitochondrial function. Aprille has provided striking *in vitro* support of this concept by demonstrating that rat liver mitochondria, when incubated with the sera of patients with Reye's syndrome, undergo morphological changes similar to those seen clinically, and they also exhibit decreased respiratory activity.¹⁷

Mitochondrial damage may be the final common pathway of the various factors (viruses, toxins, genetic predispositions) that have thus far been thought to be causative. Specific therapeutic modalities may eventually



Figure 3. Demographic distribution of patients presenting to Rhode Island Hospital with Reye's syndrome (January 1973 through January 1979).

center around reversing discrete biochemical abnormalities incurred by such damage, such as an imbalance of neurotransmitters.¹⁸

Conclusion

Reye's syndrome is a multisystem disease which may claim a high mortality. The community physician's early recognition of its biphasic course and his willingness to refrain from prescribing antiemetic medication are the important initial steps in optimum management. Definitive care demands a multi-specialty approach which can only be provided by a tertiary care center. Early referral of all suspected cases to such a facility represents the most effective means of reducing both the morbidity and mortality from its otherwise high occurrence.

Acknowledgements

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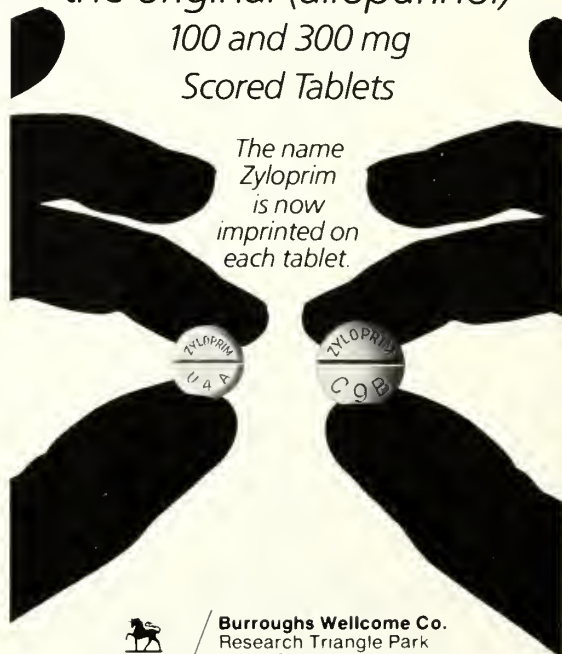
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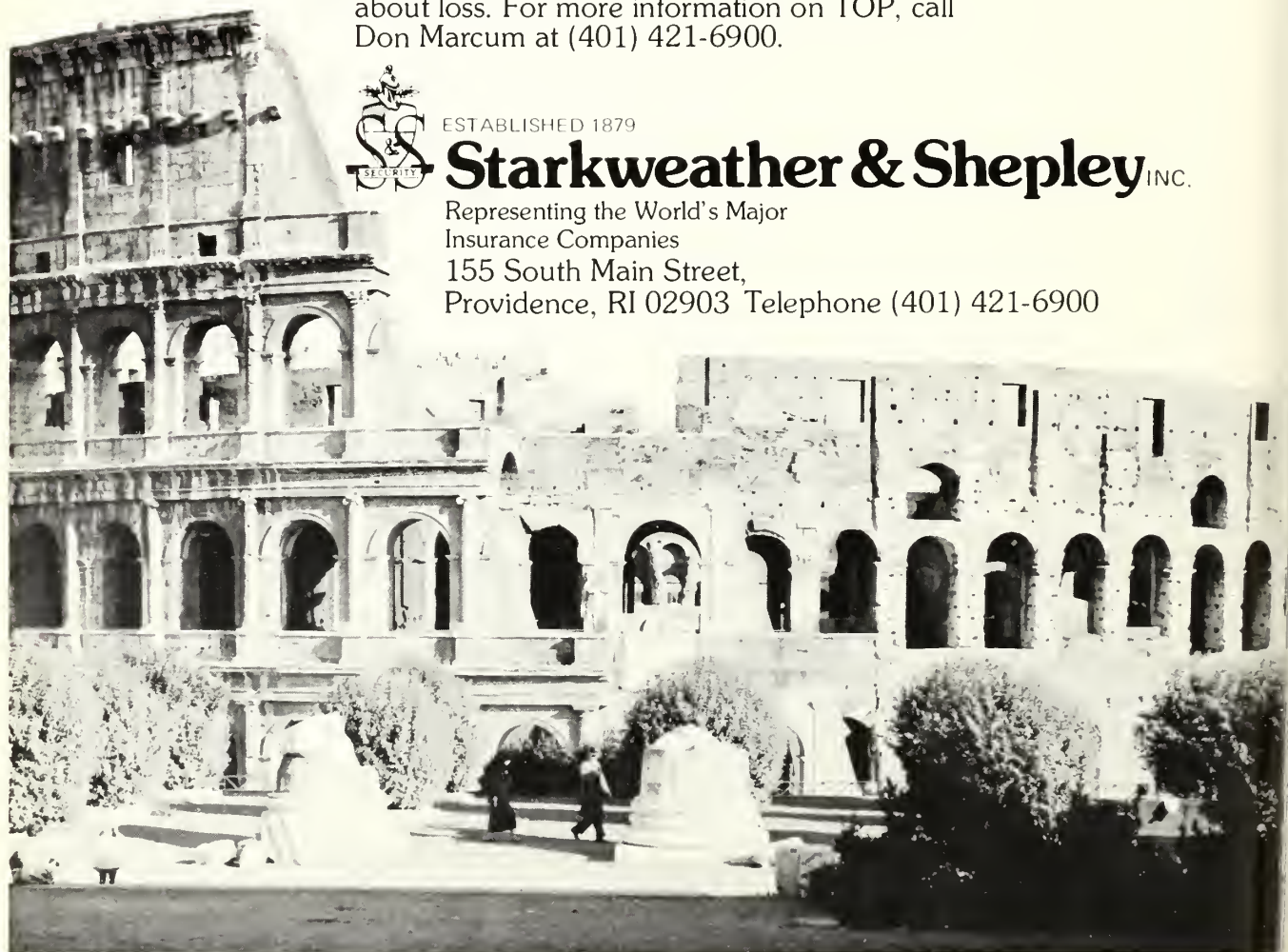


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Outpatient Titration with Intramuscular Haloperidol as an Alternative to Psychiatric Hospitalization

Technique Has Made Feasible The Ambulatory Treatment Of Highly Disturbed Patients Formerly Requiring Hospitalization

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The past several years have seen a shift in emphasis and resources from psychiatric hospitalization to community-based treatment for patients with acute psychiatric emergencies, as well as for those with chronic disabling disorders. When psychiatric hospitalization becomes necessary, the use of rapid "titration" or "digitalization" with intramuscular antipsychotic drugs has been shown to produce a rapid dissolution of acute psychosis with a shortened length-of-stay.¹⁻⁸

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This paper describes the use on an outpatient basis of rapidly sequential intramuscular doses of haloperidol (titration) in severely agitated patients with acute psychosis, who present at the emergency service of a community mental health center. This technique has enabled us to treat on an outpatient basis a group of highly disturbed patients who previously required psychiatric hospitalization.

Setting

The Providence Mental Health Center is a comprehensive community mental health center serving a city of 170,000 with areas of poverty and high prevalence of mental illness, alcoholism, and psychiatric hospitalization. The Center embraces a philosophy of finding alternatives to psychiatric hospitalization through a fairly standard repertoire of community-based services and support systems—24-hour crisis intervention, day treatment, group homes, and liaison with other community agencies. Short-term psychiatric hospitalization, voluntary and involuntary, is available (maximum length-of-stay 25 days) in 18 beds purchased at a local private psychiatric hospital. Long-term psychiatric hospitalization is provided at a state

hospital of limited resources. All psychiatric emergencies, except for the private sector, are seen at the Center's emergency services. During daytime hours these services are located on a main street in a pleasantly furnished non-medical building adjacent to our outpatient and day treatment units. Staffing consists of a psychiatrist, two psychiatric nurses, a mental health counselor, and receptionist, with additional staff available from the adjoining units at times of peak overflow. At night and on weekends, emergency services are located in the emergency room of the city's largest general hospital. One mental health professional is on the premises, with a psychiatrist on back-up.

Method

Upon the arrival of a patient at the emergency service the history of present and past psychiatric and medical illnesses, as well as adequacy of family, social and community supports, are rapidly assessed, usually within 30 minutes.

The following criteria must be met in order for titration with haloperidol to take place:

- 1) Presence of acute psychosis or acute exacerbation of chronic psychosis, marked by a) agitation, b) assaultiveness or potential assaultiveness, and c) delusional thinking, pressure of speech, or both with loose associations, tangential thoughts, auditory hallucinations, or both.

- 2) Absence of signs of drug intoxication, alcohol intoxication, or both, or withdrawal.

- 3) Absence of signs of acute organic brain syndrome (delirium), such as disorientation, visual hallucinations, fever.

- 4) Absence of significant medical problems that would contraindicate high doses of antipsychotic medications outside a setting with a complete range of medical services. These medical problems include heart disease, glaucoma, uncontrolled seizure disorder and significant hypertension.

- 5) Willingness of the patient to accept intramuscular medication.

- 6) Presence of sufficient family or community supports or both, who will accept the patient in their midst once titration is completed.

If the above criteria are met, sufficient staff is mustered, and local police, who may have

brought the patient, are asked to remain for the safety of staff and patient. One staff person tries to establish rapport with the patient by attempting to identify a symptom, such as racing thoughts, feeling frightened, or fearing loss of control that both patient and staff perceive as a problem. The patient is told, quietly but firmly, that s/he will be given injections of medication to relieve this target symptom. If a patient meeting the grounds for emergency commitment in Rhode Island refuses medication, s/he is told that unless s/he agrees to accept medication, s/he will be involuntarily hospitalized. If the patient does not object, titration begins.

The patient is given 10 mg of haloperidol intramuscularly in the deltoid and taken to a quiet room with a sofa, pillow, and blanket. The patient is told that the medication may make him/her drowsy, and is invited to rest on the sofa as s/he wishes. The staff person stays with the patient. At intervals of one-half hour the patient is assessed; mental status is reviewed and vital signs are taken. Haloperidol, 10 mg, is given intramuscularly every half-hour in this way, until the end-point is reached. The end-point consists of marked reduction of agitation with significant diminishing of other psychotic symptoms. If the patient falls asleep during the titration, s/he is roused every 30 minutes. If, when aroused, s/he remains agitated and/or significantly psychotic, administration of intramuscular haloperidol continues. During the titration staff meet with the patient's family, or social supports, or both keeping them informed of the patient's progress, offering clarification and reassurance.

At the end of the titration the patient is given an oral dose of haloperidol equivalent to the total amount of intramuscular haloperidol given during the titration. S/He is also given an oral dose of an anti-parkinsonian agent, eg, trihexyphenidyl HCL 2 mg. Staff meet with the patient and his/her family or social supports and clarify what has happened. The patient is given a take-home dose of haloperidol equivalent to one-half the total intramuscular dose required during the titration, as well as an additional take-home dose of anti-parkinsonian agent, with instructions to take both eight hours later. Patient and family are given the telephone number and location of our services to call during the night in the event of any complications and are

asked to return to our emergency services the following morning. At that time further assessment takes place, and the patient continues treatment in our day treatment program or outpatient services. Oral haloperidol is continued in dosage that gradually decreases to a maintenance level over the next few weeks. Oral anti-parkinsonian medication is continued for two weeks, at which time it can generally be discontinued.

Results

Of the 21 patients in this study, all were sufficiently disturbed to meet admission criteria at local hospitals, and 67 per cent met the criteria for emergency involuntary commitment in Rhode Island. Titration with intramuscular haloperidol made alternatives to hospitalization possible for 15 patients, or 71 per cent. Psychiatric hospitalization was necessary for 6 or 29 per cent. The reasons for hospitalization were continued agitation, and/or psychiatric behavior unresponsive to the titration, or both (5, or 83 per cent), and lack of community supports, ie, lack of a supportive place to go in the community (1, or 17 per cent). Of the 6 patients requiring psychiatric hospitalization, 3, or 50 per cent had an underlying character disorder. The average dose of intramuscular haloperidol was 30 mg, administered over a period of 1½ hours, followed by 30 mg of oral haloperidol, and an additional 15 mg of haloperidol 8 hours later. The maximum dose of intramuscular haloperidol was 40 mg.

No untoward reactions were noted in any of the patients in this study. Postural hypotension was not a problem. One patient did not take his oral anti-parkinsonian medication, and did develop an acute extra-pyramidal reaction on the day following titration, which angered him and caused him to refuse further treatment; he required hospitalization for mania four months later. No other patient in the study, who was not initially hospitalized, required psychiatric hospitalization for six months after the titration.

Case examples

A 48 year-old, single man, living alone with his elderly mother, was brought by ambulance to Emergency Services. For two weeks he had been refusing to leave his room, had been expressing paranoid thoughts, and had been eating and sleeping sporadically.

Past history included a six-month hospitalization at age 16 for catatonic schizophrenia, marked by withdrawal, posturing, auditory hallucinations, and delusions. Following this hospitalization, he remained at home without treatment until age 46, when he was again hospitalized for five months with similar symptoms, and treated with Mellaril®. He returned home to care for his mother, seldom leaving the house.

Mental status examination at Emergency Services revealed a tense man, sitting rigidly, who did not respond to questions. He glanced aside repeatedly, as though responding to auditory hallucinations. He had some waxy flexibility.

He was given 5 mg haloperidol intramuscularly. After 45 minutes he began to speak, his conversation being marked by loose associations and religious paranoid preoccupations. Two further intramuscular injections of haloperidol, 5 mg, were given at hourly intervals. Three hours after he was first seen, the patient was calm, walking about comfortably, speaking of his present life situation with good reality testing. Occasional delusional thoughts were present. His mother agreed to have him return home. He was given 30 mg of haloperidol orally, returned home by cab, and returned the following day to begin a five-week stay in a Day Treatment program.

Comment: This was the first patient we treated with intramuscular haloperidol titration. The successful outcome without adverse reactions encouraged us to continue the method, and gave us the courage to use higher doses when necessary.

Case 2. A 24 year-old single man, living with his parents, was referred to Emergency Services because he was threatening family members. Mental Status examination revealed marked agitation, pressure of speech, grandiosity, and paranoid delusions. Past history included several hospitalizations for manic episodes, with failure to follow through with outpatient treatment after hospitalization. After mild objections he agreed to take intramuscular medication. Five minutes after receiving 10 mg of intramuscular haloperidol, he was noticeably less agitated and paranoid and was able to lie quietly on a sofa with frequent supportive contacts. In two hours he was given another 10 mg of intramuscular haloperidol. Two hours later he was calm,

coherent, and agreeing to take oral medication at home and to follow up with a Day Treatment program. He was sent home with 40 mg of haloperidol to take orally at bedtime. He attended a Day Treatment program for one month. His psychotic thought process and agitation responded well to a combination of haloperidol and lithium, but there was a great deal of attention-seeking behavior. Upon referral to once-a-week outpatient treatment he experienced much separation anxiety from Day Treatment, began to miss appointments, and stopped his medication. He began to exhibit manic behavior and was seen at Emergency Services, agitated, threatening, and delusional, as before. He was given two 10 mg injections of intramuscular haloperidol at an interval of one-half hour. This time, however, his agitation and threatening behavior increased in intensity. He became unmanageable and was hospitalized.

Comment: This patient had characterologic problems underlying his manic-depressive illness. During the first titration his dramatic improvement five minutes after the first shot of haloperidol was probably related to his wish for control and for intensive involvement in treatment. During the second titration he was angry at the loss of intensive treatment he had experienced and regarded staff at Emergency Services as deprivors, rather than providers of the attention he sought.

Case 3. A 54 year-old man who presented at our Emergency Services with a two-week history of pressured speech, physical hyperactivity, poor sleep, flight of ideas, and irritable and threatening behavior towards his family and people in the community. He had made several threats to kill his brother-in-law during all-night vigils in which he stood outside the brother-in-law's home shouting. He had also been in several fights with persons in public places. He had been in four minor car accidents during this period of time. He presented at Emergency Services as a tall thin man with an intelligent-looking, but sad countenance and with a disheveled appearance, which made him look older than his chronological age.

The patient's presentation was part of a continuum of long-standing documented manic-depressive illness with acute exacerbations dating back at least to 1961, at which time he was first hospitalized after several weeks of

hyperactive sleepless pacing behavior. He was hospitalized approximately 17 times in a variety of inpatient settings in the years leading up to his current presentation. Most of these hospitalizations resulted from manic episodes in which he would become hyperactive, with pressured speech, flight of ideas, and grandiosity. Often he would become preoccupied with risky financial schemes and threatening behavior towards people. His hospitalizations tended to occur at one- to two-year intervals. He generally stabilized within a hospital setting on a combination of phenothiazines given acutely and then lithium. Between episodes he was often unreliable on medications and tended often to be depressed at least mildly and withdrawn. In the ten years prior to his presentation he had separated from his wife, had become more erratic in his job history, and had become more alienated and isolated from his family.

When he first presented at our Center, an attempt was made, unsuccessfully, to stabilize him on Mellaril® 200 mg three times a day and lithium 1200 mg daily on an outpatient basis, but he was unreliable with his medications and was being reported to the police on several occasions for provocative behavior. He was sent to the local state hospital for four days, at which time he signed out against advice. At that time he was on lithium 900 mg twice a day, but was still clearly out of control. On the day following his discharge from the state hospital he presented at our Emergency Service in a manic state. It was decided to attempt to titrate him on an outpatient basis and stabilize him through our Day Treatment Program, given the fact that he was presenting early in the day, he had at least a minimal motivation to participate in the treatment and had a somewhat supporting living situation in a local YMCA. He was given 10 mg of haloperidol intramuscularly four times over 4½ hours with progressive diminution in agitation, hyperactivity, and racing thoughts, and sedation, but not somnolence. He was sent home with 40 mg of haloperidol to take at bedtime, which he did. When he came back to the Center on the next day, he reported having slept "several hours", controlling himself regarding threatening contacts with his family, initiating attempts to rectify several "bad checks which I passed". He was started that day in the intensive structured setting of our Day Treatment Program on haloperidol 40

mg, twice a day and lithium 600 mg three times a day, with continuing improvement in his mental status over the days which followed. When he reached the therapeutic range of lithium, haloperidol was gradually tapered. As his manic behavior subsided, he clearly became more reliable with his medications and began expressing fears of emergence of severe depression, which began to subside as his family became more involved with him. He remained in our Day Treatment Program over a period of the next month and was ultimately discharged on lithium 600 mg, three times a day. During the period he was at our Day Treatment Program he was able to sustain himself at the YMCA and expressed pride at being able to "handle the episode outside the hospital".

Discussion

We have found the technique of outpatient titration with intramuscular haloperidol to be effective in providing rapid treatment to severely disturbed, acutely psychotic patients, and in preventing the need for their hospitalization. Most of the patients in this study would have been hospitalized by us prior to our implementing this technique.

Although many acutely psychotic patients are willing to take medications orally, we prefer to give all the medications during the titration by the intramuscular route. The onset of action is faster, and the duration of over-sedation, should this occur, is shorter than with oral medications. In addition, when intramuscular medication is given, there may be a helpful dynamic communication to the patient that firm, decisive action is being taken to restore him/her to control.

The absence of postural hypotension at high intramuscular dosage is an important factor in our preference for a high potency anti-psychotic medication such as haloperidol over a low-potency anti-psychotic medication such as chlorpromazine. Postural hypotension may be a desirable side-effect in an inpatient setting with an assaultive patient. In an outpatient setting, however, where the goal is to return a patient to the community that day, postural hypotension is undesirable. The same factors hold true for sedation, which may be desirable on an inpatient basis, but make return to the community difficult. We have found that intramuscular haloperidol provides reduction

of agitation and psychotic thinking without excessive sedation or postural hypotension.

Others have noted that high intramuscular doses of haloperidol cause it to act initially as its own anti-parkinsonian agent because of its anticholinergic side-effects, and that extrapyramidal reactions tend to occur after 48-72 hours as the dosage is reduced.² We have found that extrapyramidal reactions do occur within the first 24 hours after titration. Since our patients are often at home when these reactions occur, it may take one to two hours to provide an intramuscular injection of anti-parkinsonian agent. During this period the patient and his/her family may be quite frightened, and the therapeutic alliance may be lost. We therefore routinely give prophylactic anti-parkinsonian agents at the onset of titration with haloperidol and continue them during the first few weeks of oral maintenance.

Titration with intramuscular haloperidol does not prevent hospitalization in every case. Nevertheless, even when hospitalization is necessary, those patients who have been pre-medicated with intramuscular haloperidol arrive at the hospital in a condition sufficiently manageable that they can be placed on an open, rather than locked ward, can establish more rapidly a therapeutic alliance, and can be discharged after a short length of stay.

Summary

In this paper we have described the use on an outpatient basis of rapidly sequential intramuscular doses of haloperidol (titration) in severely agitated patients with acute psychosis, who present at the emergency service of a community mental health center. This technique has enabled us to treat on an outpatient basis a group of highly disturbed patients who previously required psychiatric hospitalization.

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As with all anticholinergics, inhibition of lactation may occur.

Precautions: In elderly and debilitated, limit dosage to smallest effective amount to preclude ataxia, oversedation, confusion (no more than 2 capsules day initially, increase gradually as needed and tolerated). Though generally not recommended, if combination therapy with other psychotropics seems indicated, carefully consider pharmacology of agents, particularly potentiating drugs such as MAO inhibitors, phenothiazines. Observe usual precautions in presence of impaired renal or hepatic function. Paradoxical reactions reported in psychiatric patients. Employ usual precautions in treating anxiety states with evidence of impending depression, suicidal tendencies may be present and protective measures necessary. Variable effects on blood coagulation reported very rarely in patients receiving the drug and oral anticoagulants, causal relationship not established.

Adverse Reactions: No side effects or manifestations not seen with either compound alone reported with Librax. When chlordiazepoxide HCl is used alone, drowsiness, ataxia, confusion may occur, especially in elderly and debilitated, avoidable in most cases by proper dosage adjustment but also occasionally observed at lower dosage ranges. Syncope reported in a few instances. Also encountered: isolated instances of skin eruptions, edema, minor menstrual irregularities, nausea and constipation, extrapyramidal symptoms, increased and decreased libido—all infrequent, generally controlled with dosage reduction. Changes in EEG patterns may appear during and after treatment, blood dyscrasias (including agranulocytosis), jaundice, hepatic dysfunction reported occasionally with chlordiazepoxide HCl, making periodic blood counts and liver function tests advisable during protracted therapy. Adverse effects reported with Librax typical of anticholinergic agents, i.e., dryness of mouth, blurring of vision, urinary hesitancy, constipation. Constipation has occurred most often when Librax therapy is combined with other spasmolytics and/or low residue diets.

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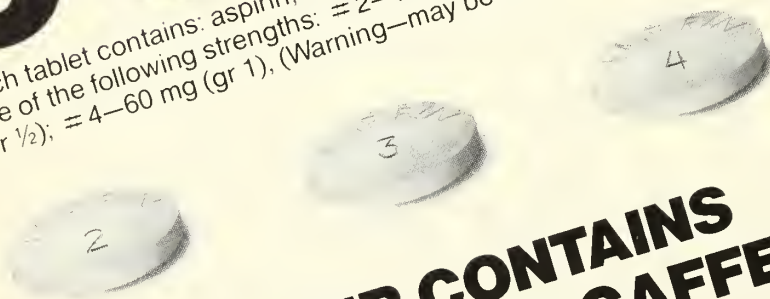
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The Physical Fitness Index

The Method Provides A Simple Standardization Of Cardiovascular Endurance

By Ralph F. Fregosi, MS
Carol A. McVey, RN
Marvin S. Kerzner, MD

This report presents data on 360 subjects, chosen out of a total of 547, all of whom were given cardiac stress tests using a modified Bruce⁴ protocol. Although stress testing is used primarily as a diagnostic tool, the opportunity to extrapolate physical fitness data from the results cannot be overlooked. In the past many authors have advocated the importance of physical fitness.^{1,3,5-10} However, most research involving stress induced physiological parameters reflects rigid scientific controls and procedures which tend to limit practicality. Our objective in publishing this report is to describe a simple quantitative measure that may help define physical fitness. With quantification and simplicity our main concerns, we feel the busy practitioner can easily use the Physical Fitness Index to educate and motivate his patients following graded treadmill exercise testing.

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Methods and Procedures

Subjects were walked on a motor driven treadmill using the modified Bruce protocol. Leads 1, V-5, and AVF were monitored throughout the test using a Del Mar Avionics Cardioguard 4,000.[®] Thirty seconds before the conclusion of each three minute stage a print-out of all monitored lead activity was obtained. At this time blood pressure, heart rate, and S-T segment deviation were also determined and recorded on a technicians face sheet. (The face sheet is presented to the patient's physician along with the electrocardiographic tracings to aid in interpretation). As the subjects achieved 85 per cent of their age adjusted maximal heart rate (HR MAX), the test was terminated. The age adjustment used was 220 beats per minute (bpm) minus age of the subject.^{2,11} This formula has a standard deviation of ± 10 bpm.² All subjects included in the data reached the pre-determined 85 per cent of HR MAX prior to test termination.

Using 85 per cent of HR MAX as a target, physical fitness indices were derived. The indices are calculated by recording time spent on the treadmill prior to reaching 85 per cent of HR MAX. Starting at stage one-half,⁴ each three minute stage of protocol that is completed equals an index of one (1.0). For example, if one walked for 10 minutes and 40

seconds, the derived index would equal 3.55, which translates into success throughout 3 complete stages plus 55 per cent of the fourth stage: $3 + (100 \text{ seconds}/180 \text{ seconds}) = 3.55$. The heart rate must be maintained at 85 per cent of maximum for at least 15 seconds before termination to allow for the plateau effect and time to attain a "steady state". Following termination the patient is allowed to walk slowly and cool down. Once the patient begins to recover, the treadmill is stopped and the patient is monitored standing for two minutes. This is then followed by 6 minutes of supine inspection, or until the heart rate and blood pressure are within normal, pre-exercise limits.

Subjects

The subjects represented an adequate cross section of the population. Included were healthy post-coronary and also some coronary bypass patients. Virtually all socioeconomic classifications were represented. The data include 117 females and 243 males. Patients taking propranolol and other beta blocking drugs were eliminated from the data analysis.

Results

Table 1 lists the results for males (M) and females (F) in each age group. The number of subjects (n) and the mean (M) and median scores are listed, as well as the high score and standard deviation (SD) in each category. The highest recorded value represented a male in the 31-40 year age group. Table 2 depicts the mean age group scores for males and females combined. Table 3 displays the spread of scores collected from post myo-cardial infarction patients, while Table 4 does the like for coronary bypass subjects. With no concise definition of what constitutes either excellent or poor levels of endurance, we empirically consider one SD below the mean as a poor score, and one SD above the mean an excellent score.

Discussion

Physical fitness generally encompasses a combination of four capacities: strength, flexibility, neuromuscular coordination, and cardiorespiratory fitness or "endurance". Endurance can be defined as the ability to perform prolonged bouts of work without experiencing fatigue or exhaustion. Muscular or local endurance refers to the ability of a single

muscle group to sustain activity, with the impending fatigue taking place only in that muscle group. Cardiorespiratory or "absolute" endurance refers to the amount of work the body as a whole can endure. Long distance runners exemplify the apex of cardiovascular endurance. Most sports medicine experts agree that general or absolute endurance is the single most important capability in an individuals physical fitness profile.¹² Evidence is mounting that a positive correlation between cardiovascular efficiency and longevity. Activities such as walking, running, cycling, swimming, hiking, and cross country skiing are excellent endurance development activities and will usually satisfy a large cross section of the population.

Table 1. Scores by Age Group and Sex.

Age	Sex	n	M	Me- dian	High	S.D.
20-	M	27	4.2437	4.41	6.0	1.078
30	F	5	3.318	3.54	3.96	.83645
31-	M	61	4.23	4.33	6.5	.86
40	F	16	3.539	3.55	4.91	.9058
41-	M	72	3.897	4.0	6.0	1.037
50	F	29	2.826	3.25	4.91	1.0556
51-	M	52	3.253	3.31	6.0	1.08
60	F	43	2.633	2.77	4.17	1.0
61-	M	31	3.02	3.26	5.19	1.037
70	F	24	2.135	2.0	4.5	1.02

Table 2. Male + Female Scores

Age	n	M	S.D.
20-			
30	32	4.099	1.03
31-			
40	77	4.087	.859
41-			
50	101	3.59	1.037
51-			
60	95	2.97	1.04
61-			
70	55	2.634	1.02

The modified Bruce protocol is one of the most widely used procedures when screening for coronary artery disease. By adding the Physical Fitness Index following a completed test and informing the patient of his general fitness level, we are able to demonstrate where the patient's endurance level stands in relation to that of his peers. In addition, an exercise prescription may be evolved from the test results. If standardized, this simple index could be used for comparative purposes and communication within the medical profession. In our facility the index is used as a motivational vehicle in cases where increased physical activity is indicated. We display all scores on a large graph (Fig 1), and following a stress test the patient has access to immediate feedback regarding his level of fitness in relation to that of others in his age group. The graph is composed of all patients who completed the test, and the combined male-female mean scores are also displayed.

It is of interest that the majority of the above-average scores in the post-coronary

Table 3. Scores of post M.I. patients (M + F).

Age	31-40	41-50	51-60	61-70
	5.0	3.02	4.9	5.2
	3.3	3.0	2.76	4.38
		2.25	2.6	3.7
			2.0	3.5
			1.0	3.2
				2.7
				2.5
				2.45
				1.6
			.45	1.4
				1.0

Table 4. Scores of coronary bypass patients.

Age	41-50	51-60	61-70
	5.35	2.83	4.35
		—	2.2
		2.65	
		2.0	
		1.0	
		0.7	



Figure 1. The physical fitness index graph shows the level of fitness of each patient in relation to that of other patients.

categories represent patients who have actively participated in exercise rehabilitation. In addition, the large range in these categories supports the claim that exercise may be a valuable rehabilitative tool in the post coronary patient. The physical fitness index has future potential in evaluating physical conditioning programs, by simply employing a pre-and post-test design. Ideally, an individualized exercise prescription should be made available to those patients who request it.

Conclusions

The sedentary nature of man has led to many health-related problems. Many of these problems can be alleviated by a carefully thought out program of physical activity, based on the individual's physical work capacity. It is our feeling that the physical fitness index based on the modified Bruce protocol is a simple concise means of standardizing one's general state of physical fitness. In addition, the index can be used as a device to motivate

both normal sedentary and selected post-coronary patients to become involved in physical fitness programs and to aid in following a participants' progress in these programs.

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Product Information as of September, 1977
U.S. Patent 2,985,558

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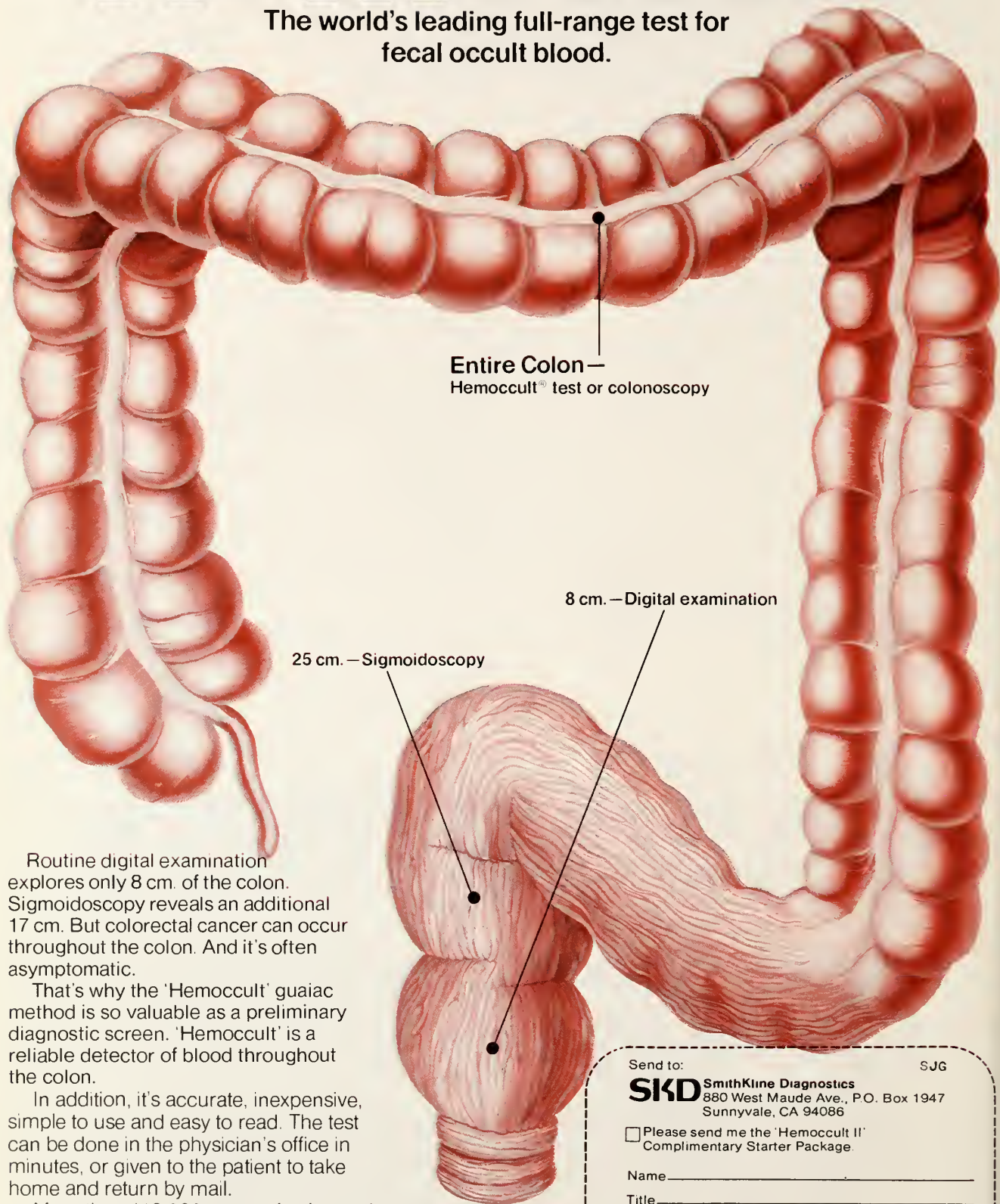
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Clinical Applications of Immunoperoxidase Technique

Method Is Similar To Immunofluorescence, But Is More Sensitive, Easier, Less Expensive, And Uses Light Microscopy

By Su-Ming Hsu, MD

Coons and Kaplan in 1941 first described an immunofluorescent method for the localization of antigens and antibodies in tissue sections. Since then the method has been widely used clinically for identification of surface and intracellular lymphocyte markers and immune complexes of glomerular diseases.

Within the past ten years an alternative method using "enzyme-labeled antibodies" has been developed which is rapidly replacing immunofluorescence and is used in an increasing number of cases. This method eliminates many of the problems and difficulties of immunofluorescence. Its success is due to the relative simplicity and rapidity of the method.

The immunoperoxidase methods are easily adapted to various systems and models in experimental and diagnostic pathology.^{1,2} The stains can be examined and photographed with the ordinary light microscope, are permanent, and can be routinely stored for review at any future time. If the antigens are sufficiently stable to resist alterations of their antigenic determinants by routine fixation and paraffin embedding methods, the use of frozen section is not necessary and no advance precautions need be taken for the processing of

tissues. Retrospective studies can be carried out by simply cutting paraffin blocks.

General Principles

The principles of the immunoperoxidase methods are similar to that of immunofluorescence. The only difference is the replacement of rhodamine or fluorescein by an "enzyme".

Briefly, for the detection of antigens antibodies are conjugated with enzymatically active molecules. The substrate for this enzyme must be soluble, but the final reaction product has to form a precipitate and be amorphous. This insoluble end-product is deposited at the very site of antibody reaction and is visible with light microscopy.

Various enzymes can be used in this technique, but the most commonly used are enzymes with "peroxidative action." These enzymes (eg, peroxidases or cytochrome C) catalyze the oxidation of chromogenic substrate, such as diaminobenzidine, in the presence of hydrogen peroxide (H_2O_2). The oxidized diaminobenzidine intermediates rapidly polymerize to form an insoluble brown phenazine derivative which can be easily detected. Also, the polymer can reduce and chelate osmium tetroxide rapidly. This action leads to an electron-dense chelated product of osmium which is very suitable for studies with the electron microscope.³

SU-MING HSU, MD, *Resident in Pathology, Rhode Island Hospital, Providence, Rhode Island.*

Staining Methods

Several immunoperoxidase staining methods have been described; three of them are briefly summarized as follows:

A. Peroxidase Conjugated Method — direct or indirect: In the direct method one uses peroxidase conjugated anti-X antibody to detect the presence of antigen-X. In the indirect conjugated method, however, one first treats the tissue section with anti-X antibody made in animal species A and then adds the peroxidase conjugated antibody from a second species-B that is directed against the Ig determinant of the first species-A. The disadvantages of these two methods are: (1) purification of Ig from whole serum is necessary prior to conjugation, (2) the preparation of conjugated antibody usually results in denaturation of antibody or loss of enzymatic activity, (3) formation of aggregate Ig during conjugation tends to increase the nonspecific background staining, and (4) since the conjugation is rarely complete, there will be a competitive inhibition between the conjugated and unconjugated antibody which reduces the sensitivity of detection.

B. Hybrid Antibody Method: In this method one uses in vitro reconstituted hybrid antibody with two different combining sites, ie, one against the antigen to be detected, the other against the horseradish peroxidase. The tissue sections are treated with hybrid antibody preparation, and then free peroxidase is added, followed by chromogenic substrate. The hybrid antibody molecules react with tissue antigen through one combining site and attract the peroxidase molecules through the other combining site. In such a manner the presence of antigen in tissue sections can be detected. The disadvantages of this method are: (1) the preparation of hybrid antibody is time-consuming, and (2) preparations of hybrid antibody generally contain non-hybridized antibody which reduces the sensitivity of detection.

*C. Peroxidase-Antiperoxidase (PAP) Method (Sternberger's Method: Bridge or Triple Layer):*⁴ This method involves sequential addition of three layers of antibodies. For example, for the detection of antigen-X in human tissue, the tissue section is first treated with rabbit anti-X antibody (first layer), which is then followed by a relatively "excess"

amount of swine anti-rabbit antibody (second layer). Owing to the divalent (or multivalent) nature of antibody molecules, the swine antibody added "in excess" would have some free combining sites and thus would be capable of binding to the rabbit anti-peroxidase-peroxidase complexes (third layer) added subsequently. The swine anti-rabbit antibody essentially acts as a "bridge" between rabbit anti-X and rabbit anti-peroxidase antibodies.

The PAP method, which eliminates the risk of antibody and enzyme alterations due to chemical conjugation, appears to be at least 20 times more sensitive than the peroxidase conjugated method, and 100 to 1000 times more sensitive than the immunofluorescence method.

A problem associated with the PAP method is the possibility that the immune complexes formed during the repeated antigen-antibody reaction may bind to the Fc receptors of viable lymphoid cells.⁵ This complication occurs especially in studying surface antigens of viable lymphocytes and makes the preparation of Fab or Fab₂ fragments of each antibody necessary in such cases. Furthermore, in the PAP method the introduction of two or more heteroantisera generally induces a higher degree of nonspecific background staining. Fortunately, in most cases the background staining can be minimized to a tolerable degree by appropriate dilution of each antiserum.

Problems and Difficulties

A. Fixation: Generally speaking, fixatives that give excellent preservation of histological structures are not necessarily suitable for the immuno-histological reactions. It was suggested that the more refined fixatives may cause denaturation of antigens or mask the antigen by preserving the integrity of cells and thereby reducing the permeability of antibodies. Conversely, the crude fixatives may be more suitable immunohistochemically because they are less effective in preserving the cell and tissue structures.⁶

For a given fixative the time of fixation is also very important. Poorly-fixed tissue displays indistinct cell morphology, allows diffusion of unfixed antigens, and causes a higher degree of background staining. Conversely, prolonged fixation causes denaturation of antigens, restricts penetration of antibodies, and reduces the staining intensity.

Therefore, the duration of fixation should be carefully adjusted.

A solution of 10 per cent buffered formalin is used routinely in most histologic laboratories. With this fixative many antigens, including intracellular immunoglobulins, hepatitis antigens, carcinoembryonic antigen, lysosome, and various hormones (pituitary, pancreatic, thyrocalcitonin, human choriongonadotropin, adrenocorticotrophic hormone (ACTH), somatotrophic hormone (STH), gastrin, and others) can be successfully demonstrated in tissue sections. However, for some other antigens a choice of the best fixative has to be achieved experimentally. It should be kept in mind that the mode of fixation may profoundly affect the results of the subsequent immunohistochemical reactions.^{1,2,7}

If frozen sections are necessary for the test system, many types of fixatives are suggested. These include cold acetone, formalin fumes, 4 per cent buffered formalin, 3 per cent cacodylate-buffered glutaraldehyde, absolute methanol, or 5 per cent glacial acetic acid in absolute ethanol.

B. Non-specific Background Staining: Non-specific background staining may occur as a result of the presence of unwanted antibody specificity within the antiserum used, or it may occur as a result of non-immunological binding of serum proteins to tissue.

In case of unwanted antibody specificity, since the contaminant is generally the minor component, the antiserum can be carefully titrated to a point where only the wanted specificity is detectable or, alternatively, the unwanted specificity can be removed by prior absorption with the corresponding antigens.

In the case of non-immunological binding the solution varies with each staining procedure. Yet the principle remains generally the same. In the direct conjugated method the non-specific background staining can be minimized by incubating the tissue with normal non-immune serum prior to the addition of peroxidase conjugated antibody. The rationale of this approach depends on the principle that the first protein added to the system generally shows the highest degree of non-specific binding. Thus, it would occupy the non-specific binding sites efficiently, leaving only the specific binding sites for the antibody that follows. The same approach has

also been used in the indirect conjugated method and PAP method and has proved to be very effective.

Sufficient dilution of antibody preparation is very helpful in reducing the non-specific background staining. In our experience high concentrations of antiserum often result in substantial amounts of background, causing the positive and negative staining areas to be indistinguishable. In such cases the antiserum should be diluted to a point that retains the sensitivity and also gives the greatest contrast between positive and background staining. For instance, in our system we use 1:500 dilution for the anti-heavy chain antibody and 1:2000 dilution for the anti-light chain antibody preparations.

As discussed previously, aggregate Ig or immune complexes have a tendency to bind the Fc receptors through the Fc portion of the antibody molecules. This is particularly troublesome in studying the surface antigen of lymphoid cells, because the antibody molecules aside from binding to the antigen they recognize, may also bind to the Fc receptors, leading to a false positive result. In such cases the use of monovalent Fab or divalent Fab₂ fragments of Ig is recommended.⁵

In studying areas with nearby connective tissue, the dense brown staining of reticulin, and to a lesser extent collagen, occurs frequently. This problem can be circumvented by using lower concentrations of antiserum or by prior digestion with the proteolytic enzyme pepsin. This enzymatic digestion minimizes the background staining without significantly affecting the capacity of immunoperoxidase technique in the detection of intracellular immunoglobulins.⁸

C. Endogenous Peroxidase: The endogenous peroxidase, such as the pseudoperoxidase activity of erythrocytes and the myeloperoxidase activity of granulocytes, if not inhibited prior to the immunoperoxidase staining, will sometimes interfere with the interpretation. The endogenous peroxidase can be abolished by pretreating the section with absolute methanol containing 0.3 per cent hydrogen peroxide or 0.075 per cent hydrochloric acid solution in ethanol. We routinely use H₂O₂ in methanol and have had satisfactory results.

Table 1. Examples of Clinical Applications of Immunoperoxidase Technique.

- I. Detection of immunoglobulins:
 - A. Intracellular immunoglobulins (plasma cells and other Ig containing cells) — Knowles, 1977; Burns, 1974 (Fig 1 and 2)
 - B. Surface immunoglobulins (B cells) — Curran, 1978; Knowles, 1977; and Rosenthal, 1974
- II. Detection of immune complexes:
 - A. Renal glomerular immune complexes (including C₃ and fibrinogen) — Elias, 1975; Laliberte, 1975; Bariety, 1975; and Davey, 1970
 - B. Immune complex (skin) in SLE — Ueki, 1974
 - C. Serum immune complexes — Murphy, 1973
- III. Detection of enzyme substance:
 - A. Intracellular lysozyme — Taylor, 1977 (Fig 3)
 - B. Dopamine beta hydroxylase — Hokfelt, 1975
 - C. Alpha-antitrypsin — Taylor, 1977
- IV. Detection of hormone substance:
 - A. Calcitonin (C cells) — LiVolsi, 1973
 - B. Human choriogonadotropic hormone — Walker, 1978; Kurman, 1977 (Fig 4)
 - C. Adrenocorticotrophic hormone — Kruseman, 1975, and other pituitary hormones — Moriarty, 1973; Nakane, 1975
 - D. Pancreatic hormones — Nakane, 1975
 - E. Gastrin (G cells) — Voillemot, 1978
 - F. Urogastrone — Heitz, 1978
 - G. Secretin — Robinson, 1978
- V. Detection of oncofetal protein:
 - A. Alpha-fetoprotein (AFP) — Kurman, 1977; Kuhlman, 1975
 - B. Carcinoembryonic antigen (CEA) — Pascal, 1978; Heyderman, 1977; and Marchand, 1975
- VI. Detection of viral antigens:
 - A. Hepatitis B surface antigen (HBsAg) — Busachi, 1978; Ray, 1978; and Burns, 1974
 - B. Cytomegalovirus — Kurstak, 1972
 - C. Epstein-Barr virus (EB virus) — Suzuki, 1971
 - D. Onconavirus — Dmochowski, 1974
 - E. Herpes simplex virus (HSV) — Morrisset, 1974
 - F. Mouse mammary tumor virus (MMTV) — Thomas, 1974
 - G. Avian leukosis virus — Dogherty, 1974
 - H. Rabies virus — Atanasiu, 1973
 - I. Vaccinia virus — Miyamoto, 1975
- VII. Detection of parasites, bacteria and protozoa:

— Gulbertson, 1975; Capron, 1975; Avrameas, 1971; and Sternberger, 1970
- VIII. Electronmicroscopic use of immunoperoxidase technique:

— Bariety, 1978; Moriarty, 1973; Kraehenbuhl, 1971; Seitoun, 1970; Leduc, 1969; Nakane, 1967; Graham, 1966
- IX. Miscellaneous:
 - A. Hemoglobulin A and F — Taylor, 1976
 - B. Antinuclear factor — Dorling, 1971; Benson, 1970
 - C. Antimitochondrial antibodies — Murphy, 1973
 - D. Antilymphocyte antibodies — Bruce, 1976
 - E. Intracellular albumin — Bariety, 1978
 - F. Transferrin, lactoferrin and ferritin — Mason, 1975 and 1978
 - G. Secretory component — Hsu, 1978 (unpublished data)
 - H. Fc receptor of placenta — Matre, 1978

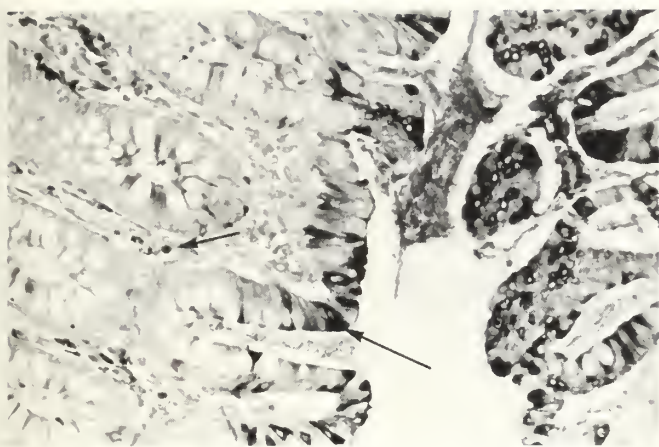


Figure 1: Colon. IgA localized in plasma cells (short arrow) and also epithelial cells (long arrow). Counter stain methyl green. X400

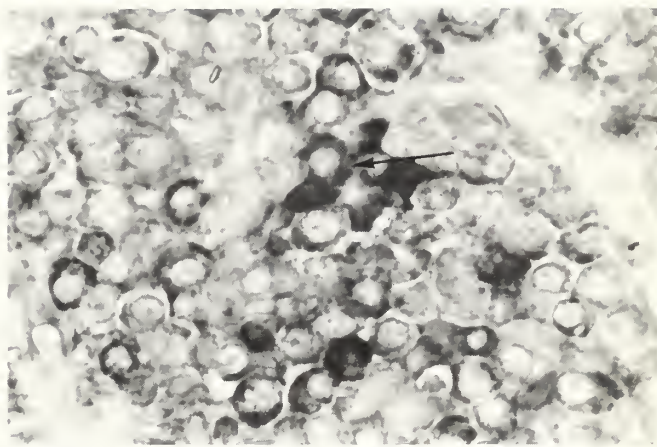


Figure 2. IgA (Kappa) myeloma. Positive cytoplasmic staining for Kappa chain (arrow). Counter stain methyl green. X600

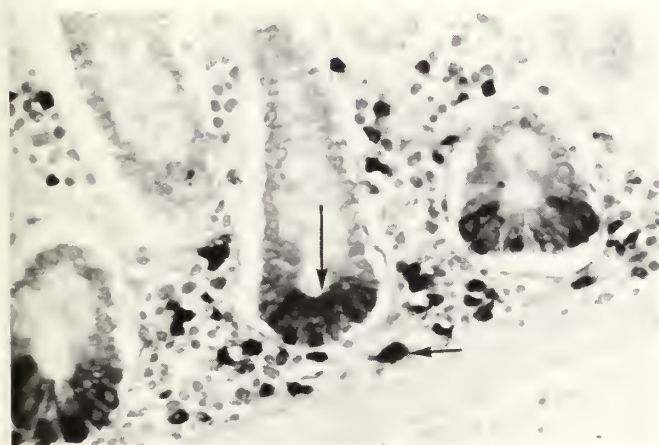


Figure 3. Small intestine. Positive staining for lysosome in Paneth cells (long arrow) and histiocytes (short arrow). Counter stain methyl green. X400

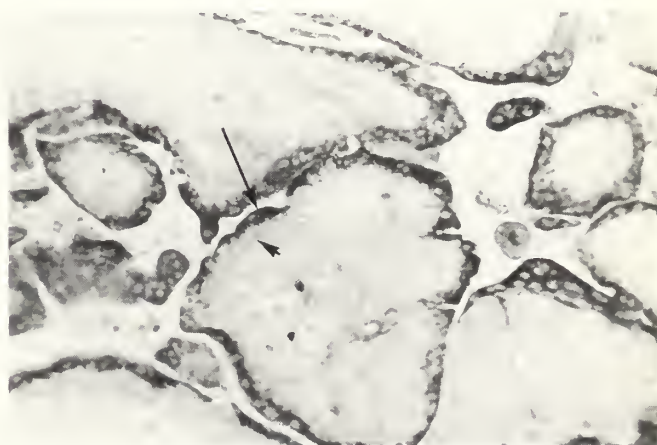


Figure 4. Placenta. Localization of HCG within syncytiotrophoblast exclusively (long arrow). Cytotrophoblasts are negative (short arrow). Counter stain methyl green. X400

D. Weaker Staining: The sensitivity of immunoperoxidase staining depends on the nature of antigen and the preservation of tissue, as well as the choice of staining method. The weak positive staining is sometimes hardly recognizable at the microscopic level. Recently, it has been demonstrated that osmication can enhance the intensity of staining by the selective deposition of OsO₄ at the sites of oxidized DAB.⁹ However, the simultaneously increased background limits its further application.

In some cases, short exposure of tissue sections to 0.1 per cent trypsin solution proved to be very effective in unmasking antigens. This enzyme presumably acts by disrupting tissue structure at the molecular level and increasing the permeability of antibody molecules. In contrast to pepsin, the trypsin digestion did not abolish the connective tissue background.

Recently, we have developed a "Self-Sandwich" method to intensify the immunoperoxidase staining (submitted for publication, Hsu & Ree). With this method we are able to enhance the staining reaction in tissues which were not well-stained previously. We can also detect the surface immunoglobulins on B cells in formalin-fixed sections. This method is at least 20-50 times more sensitive than the PAP method and, it is hoped will be a very useful tool for studying the surface markers of malignant cells in tissue sections.

Summary

Similar in design to immunofluorescence, but more sensitive, easier, and less expensive, this new diagnostic and research technique uses enzyme-labeled rather than fluorecein or rhodamine labeled reagents. The result is a color precipitation that can be assessed by ordinary light microscopy. Various techniques of immunoperoxidases are described, along with examples of current clinical applications.

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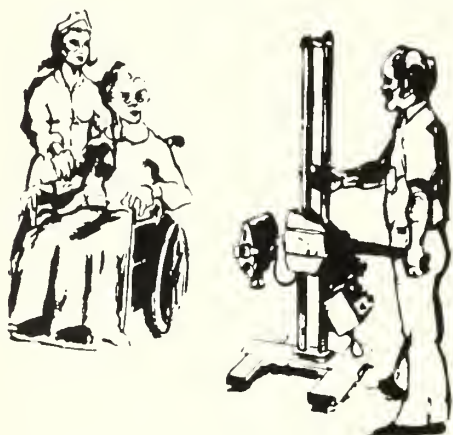
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WARNING: Because of the potential hazard of nephrotoxicity and ototoxicity due to neomycin, care should be exercised when using this product in treating extensive burns, trophic ulceration and other extensive conditions where absorption of neomycin is possible. In burns where more than 20 percent of the body surface is affected, especially if the patient has impaired renal function or is receiving other aminoglycoside antibiotics concurrently, not more than one application a day is recommended.

When using neomycin-containing products to control secondary infection in the chronic dermatoses, it should be borne in mind that the skin is more liable to become sensitized to many substances, including neomycin. The manifestation of sensitization to neomycin is usually a low grade reddening with swelling, dry scaling and itching; it may be manifest simply as a failure to heal. During long-term use of neomycin-containing products, periodic examination for such signs is advisable and the patient should be told to discontinue the product if they are observed. These symptoms regress quickly on withdrawing the medication. Neomycin-containing applications should be avoided for that patient thereafter.

PRECAUTIONS: As with other antibacterial preparations,

prolonged use may result in overgrowth of nonsusceptible organisms, including fungi. Appropriate measures should be taken if this occurs.

ADVERSE REACTIONS: Neomycin is a not uncommon cutaneous sensitizer. Articles in the current literature indicate an increase in the prevalence of persons allergic to neomycin. Ototoxicity and nephrotoxicity have been reported (see Warning section).

Complete literature available on request from Professional Services Dept. PML.



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helps control abnormal motor activity
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Demonstrated smooth muscle relaxant activity.

In this double-blind study, twenty patients having G.I. series and exhibiting spasm were randomly selected to receive either 2 cc. of Bentyl or sodium chloride intramuscularly. Ten minutes after the injection another radiograph was taken . . .

. . . Bentyl produced definite relaxation in 8 of 10 patients. The sodium chloride produced relaxation in only 3 of 10. No side effects occurred in either group of patients.



Pylorospasm has almost totally blocked passage of barium meal.



Barium meal beginning to pass 10 minutes after intramuscular injection of 20 mg. Bentyl.

"The correlation of spasm relief and drug given was excellent."

*This drug has been classified "probably" effective in treating functional bowel/irritable bowel syndrome

†See Warnings, Precautions and Adverse Reactions.

See following page for prescribing information.

Reference:

King, J.C. and Starkman, N.M.. Evaluation of an antispasmodic. Double-blind evaluation to control gastrointestinal spasms occurring during radiographic examination. A preliminary report. Western Med 5:356-358, 1964

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Brief Summary

INDICATIONS

Based on a review of this drug by the National Academy of Sciences—National Research Council and/or other information, FDA has classified the following indications as "probably" effective

For the treatment of functional bowel/irritable bowel syndrome (irritable colon, spastic colon, mucous colitis) and acute enterocolitis

THESE FUNCTIONAL DISORDERS ARE OFTEN RELIEVED BY VARYING COMBINATIONS OF SEDATIVE, REASSURANCE, PHYSICIAN INTEREST, AMELIORATION OF ENVIRONMENTAL FACTORS

For use in the treatment of infant colic (syrup)

Final classification of the less-than-effective indications requires further investigation

CONTRAINDICATIONS Obstructive uropathy (for example, bladder neck obstruction due to prostatic hypertrophy), obstructive disease of the gastrointestinal tract (as in achalasia, pyloro-duodenal stenosis), paralytic ileus, intestinal atony of the elderly or debilitated patient, unstable cardiovascular status in acute hemorrhage, severe ulcerative colitis, toxic megacolon complicating ulcerative colitis, myasthenia gravis. **WARNINGS** In the presence of a high environmental temperature, heat prostration can occur with drug use (fever and heat stroke due to decreased sweating). Diarrhea may be an early symptom of incomplete intestinal obstruction, especially in patients with ileostomy or colostomy. In this instance treatment with this drug would be inappropriate and possibly harmful. Bentyl may produce drowsiness or blurred vision. In this event, the patient should be warned not to engage in activities requiring mental alertness such as operating a motor vehicle or other machinery or perform hazardous work while taking this drug. **PRECAUTIONS** Although studies have failed to demonstrate adverse effects of dicyclomine hydrochloride in glaucoma or in patients with prostatic hypertrophy, it should be prescribed with caution in patients known to have or suspected of having glaucoma or prostatic hypertrophy. Use with caution in patients with Autonomic neuropathy. Hepatic or renal disease. Ulcerative colitis. Large doses may suppress intestinal motility to the point of producing a paralytic ileus and the use of this drug may precipitate or aggravate the serious complication of toxic megacolon. Hyperthyroidism, coronary heart disease, congestive heart failure, cardiac arrhythmias, and hypertension. Hiatal hernia associated with reflux esophagitis since anticholinergic drugs may aggravate this condition.

Do not rely on the use of the drug in the presence of complication of biliary tract disease. Investigate any tachycardia before giving anticholinergic (atropine-like) drugs since they may increase the heart rate. With overdosage, a curare-like action may occur. **ADVERSE REACTIONS** Anticholinergics/antispasmodics produce certain effects which may be physiologic or toxic depending upon the individual patient's response. The physician must delineate these. Adverse reactions may include xerostomia, urinary hesitancy and retention, blurred vision and tachycardia, palpitations, mydriasis, cycloplegia, increased ocular tension, loss of taste, headache, nervousness, drowsiness, weakness, dizziness, insomnia, nausea, vomiting, impotence, suppression of lactation, constipation, bloated feeling, severe allergic reaction or drug idiosyncrasies including anaphylaxis, urticaria and other dermal manifestations, some degree of mental confusion and/or excitement, especially in elderly persons, and decreased sweating. With the injectable form there may be a temporary sensation of lightheadedness and occasionally local irritation. **DOSE AND ADMINISTRATION** Dosage must be adjusted to individual patient's needs.

Usual Dosage Bentyl 10 mg capsule and syrup. **Adults** 1 or 2 capsules or teaspoonfuls syrup three or four times daily. **Children** 1 capsule or teaspoonful syrup three or four times daily. **Infants** ½ teaspoonful syrup three or four times daily. (May be diluted with equal volume of water.) Bentyl 20 mg. **Adults** 1 tablet three or four times daily. Bentyl Injection. **Adults** 2 ml (20 mg) every four to six hours intramuscularly only. **NOT FOR INTRAVENOUS USE.** **MANAGEMENT OF OVERDOSE** The signs and symptoms of overdose are headache, nausea, vomiting, blurred vision, dilated pupils, hot, dry skin, dizziness, dryness of the mouth, difficulty in swallowing, CNS stimulation. Treatment should consist of gastric lavage, emetics, and activated charcoal. Barbiturates may be used either orally or intramuscularly for sedation but they should not be used if Bentyl with Phenobarbital has been ingested. If indicated, parenteral cholinergic agents such as Urecholine® (bethanecol chloride USP) should be used.

Product Information as of October, 1978

Injectable dosage forms manufactured by CONNAUGHT LABORATORIES, INC., Swiftwater, Pennsylvania 18370 or TAYLOR PHARMACAL COMPANY, Decatur, Illinois 62525 for MERRELL-NATIONAL LABORATORIES, Division of Richardson-Merrell Inc., Cincinnati, Ohio 45215, U.S.A.

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Books Received for Review

FAMILY HEALTH AND HOME NURSING
by American National Red Cross. Garden City, New York, Doubleday, 1979. \$3.95.

BRAIN SURGEON: AN INTIMATE VIEW OF HIS WORLD by Lawrence Shainberg. New York, Lippincott, 1979. \$10.95.

THE COURAGE TO LIVE by Ari Kiev. New York, Thomas Y. Crowell, 1979, \$7.95.

REVIEW OF MEDICAL PHYSIOLOGY by W.F. Ganong. 9th Edition. Los Altos, California, Lange, 1979.

DR. FISHBEIN'S POPULAR ILLUSTRATED MEDICAL ENCYCLOPEDIA by Morris Fishbein. Garden City, New York, Doubleday, 1979. \$14.95.

BIRTH OF A FAMILY: THE NEW ROLE OF THE FATHER IN CHILDBIRTH by Nathan Cabot Hale. Garden City, New York, Anchor, 1979. \$7.95.

CLINICAL CARDIOLOGY by M. Sokolow and M.B. McIlroy. Los Altos, California, Lange, 1979. \$17.50.

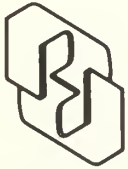
REVIEW OF PHYSIOLOGICAL CHEMISTRY by Harold A. Harper, Victor W. Rodwell and Peter A. Mayes. Los Altos, California, Lange, 1979. \$14.50.

SKIN DEEP: THE MAKING OF A PLASTIC SURGEON by Donald T. Maynihan and Shirley Hartman. Boston, Little, Brown and Co., 1979. \$10.00.

HOW TO IMPROVE YOUR CHILD'S BEHAVIOR THROUGH DIET by Laura J. Stevens and Rosemary B. Stoner. Foreword by John F. O'Brien. New York, Doubleday, 1979. \$9.95.

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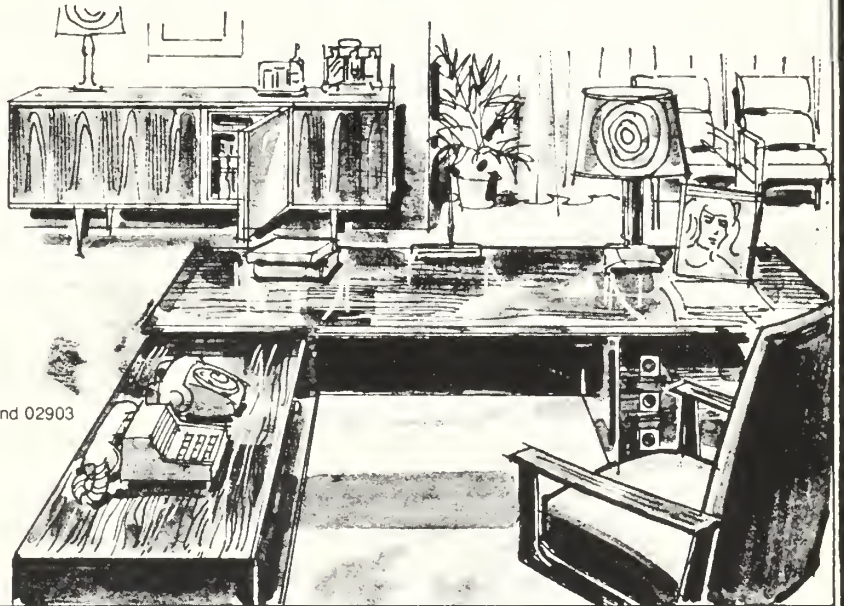
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Books Received For Review (continued)

STOP FORGETTING: HOW TO DEVELOP YOUR MEMORY AND CONCENTRATION AND PUT IT TO PRACTICAL USE by Dr. Bruno Furst; Revised and expanded by Lotte Furst and Gerrit Storm. New York, Doubleday, 1979. \$5.95.

THE VITAMIN BOOK by Rich Wentzler. New York, Doubleday, 1979. \$4.95.

CURRENT SURGICAL DIAGNOSIS & TREATMENT by J. Englebert Dunphy and Lawrence W. Way. 4th Edition. Los Altos, California, Lange, 1979.

CLEAR SKIN: A STEP-BY-STEP PROGRAM TO STOP PIMPLES, BLACK-HEADS, ACNE by Kenneth L. Flandermeyer. Boston, Little, Brown, 1979. \$8.95.

WOMEN CAN WAIT: THE PLEASURES OF MOTHERHOOD AFTER THIRTY by Terry Schultz. New York, Doubleday, 1979. \$4.95.



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ADVERSE REACTIONS

The adverse reactions that may occur are those of the individual ingredients. Doxylamine succinate may cause drowsiness, vertigo, nervousness, epigastric pain, headache, palpitation, diarrhea, disorientation, or irritability. Pyridoxine hydrochloride is a vitamin that is generally recognized as having no adverse effects.

DOSAGE AND ADMINISTRATION

2 Bendectin tablets at bedtime. In severe cases or when nausea occurs during the day: 1 additional Bendectin tablet in the morning and another in midafternoon.

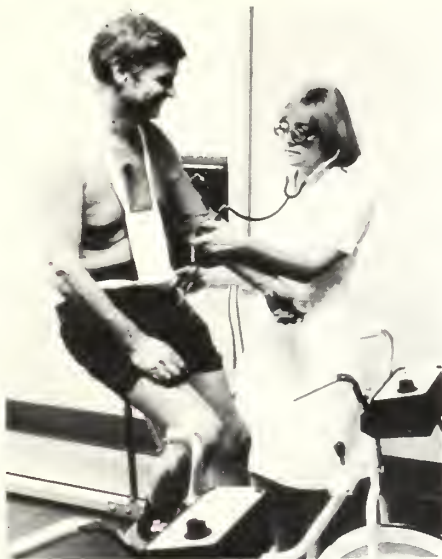
Product Information as of January, 1978

References:

1. Meyer, C.: American Folk Medicine. Scarborough, New York, Plum Books — New American Library, 1975, p. 208.
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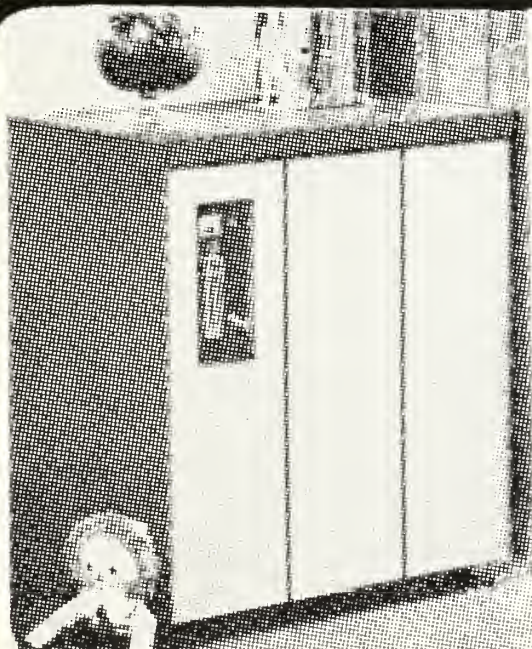
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Editorial

Medical Ethics and the AMA

Almost a generation ago Dean William Sperry of the Harvard Divinity School in a slender volume titled *The Ethical Basis of Medical Practice*, commenting on the then rather lengthly AMA code of ethics, observed with understatement: "The patient's stake in the matter is not always as clearly envisaged as it might be."

With the FTC breathing down the necks of the medical profession, a fresh appraisal of the current code of ethics is certainly in order. Carleton B. Chapman of the Commonwealth Fund has traced the origins of the original code of ethics of the AMA of 1847 back to the Oath of Hippocrates, propounded in the 5th Century BCE and to the statutes of the Royal College of Physicians of London dating from the 16th Century. The Oath of Hippocrates was essentially a pledge by the members of the Cult of Asklepios to adhere to an ascetic philosophy. The craft oath contains a few negative admonitions to keep the patient from harm and injustice and to keep in confidence information obtained in the professional setting. Chapman maintains, however, that the oath cannot be considered an adequate statement of a patient centered ethic.

The rules and regulations of the Royal College of Physicians, the precepts of which were largely drawn from the Hippocratic Oath, have virtually nothing to say about the patient and appeared to have had as their primary concern the good of the College itself. There was a preponderant emphasis on physician etiquette and little intimation that the patient's welfare should be the physician's overriding purpose.

Thomas Percival in 1803 composed a set of rules and regulations for the medical staff of the Manchester Infirmary in England, based largely on the statutes of the Royal College of Physicians.

Chauncey Leake a half century ago observed commenting on Percival's Ethics that medical ethics were usually confused with medical etiquette. This confusion persists to the present day. Our neighbor, H. Thomas Ballantine,

speaking before the Massachusetts Medical Society, reminds us that "we . . . need to acknowledge that we have been given an elevated status in the community." He added: "We must recognize that we are a privileged group, but we must also recognize and accept the obligations that our privileges cause to be imposed upon us." He further stated that "it is of vital importance that our profession have a body of ethical principles that emphasizes moral integrity and compassionate service to the sick and is competent and confidential."

The AMA Code was revised in 1949 and again in 1957 (the last extant revision) to Ten Principles, but the overall commitment remained essentially unchanged. In response to strong contemporary pressures the AMA in 1977 established the Ad Hoc Committee on the Principles of Medical Ethics to address this problem. Its report to the July 1979 Annual Meeting of the AMA House of Delegates stated: "The shifting sands of society preclude long-standing adherence to ethical principles without reevaluation and restatement into forms appropriate to the times. No professional organization had adhered immutably to unchanging codes, and the American Medical Association is no exception. Ethical changes cannot be settled solely by rational discussions, but rather as a result of the realistic evaluation of human experience."

The Ad Hoc Committee expressed "the firm opinion that the association should have a strong, broad set of Ethical Principles, maximizing individual discretion and accountability while at the same time informing the public to an uncompromising attitude toward honorable behavior within the profession. While *primarily for the benefit and protection of patients* (italics added), such principles must clearly embrace the relationships of physicians to their colleagues and to contemporary society. No one should expect any Principles of Medical Ethics to stand forever, but responding in a consistent fashion to a rapidly expanding and changing society, the American Medical Association can be worthy of the moment and the future."

The proposed Principles of Medical Ethics are published herewith (see box). The House of Delegates of the AMA at its Annual Meeting voted to distribute this document to component medical societies for study and consideration by their respective Houses of Delegates. It will be further considered at the

PROPOSED AMA PRINCIPLES OF MEDICAL ETHICS

Preamble: The medical profession has long subscribed to a body of ethical statements developed primarily for the benefit of those whom it serves. As a member of this profession, a physician must recognize responsibilities to society, to patients, to other health professionals and to self. The following principles adopted by the American Medical Association are not laws, but standards of conduct which define the essentials of honorable behavior for the physician.

- I. A physician shall be dedicated to providing medically competent service with compassion and respect for human dignity.
- II. A physician shall uphold the honor of the profession by dealing honestly with patients and colleagues and striving to expose those physicians deficient in character, competence, or who engage in fraud or deception.
- III. A physician shall respect the law, and also recognize a responsibility to seek changes in those requirements contrary to the best interests of the patient.
- IV. A physician shall respect the rights of patients, of colleagues, and of other health professionals, and shall safeguard patient confidences within the constraints of law.
- V. A physician shall continue to study, apply and advance scientific knowledge, make relevant information available to the public, and utilize the talents of other health professionals when indicated.
- VI. A physician, except in emergencies, shall be free to choose whom to serve, with whom to associate, and the environment in which to provide services consistent with appropriate patient care.
- VII. A physician, as a member of society, shall recognize a responsibility to participate in activities contributing to an improved community.

1979 Interim Meeting and a final report by the Ad Hoc Committee presented at the 1980 Annual Meeting.

The House of Delegates of the Rhode Island Medical Society at its September 1979 meeting voted approval of the Principles and instructed its delegate to the AMA House of Delegates to support adoption of the principles.

It seems likely at this writing that this simple, eloquent and humane statement of principles, possibly with some minor revisions,

will become the philosophical and ethical standard for the practicing physicians of Rhode Island and America for the foreseeable future.

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- ¹Chapman CB: On the definition and teaching of the medical ethic. *N Engl J Med* 301:630-634, 20 Sep 79
- ²Ballantine HT Jr: Annual discourse — the crisis in ethics anno domini 1979. *N Engl J Med* 301:634-638, 20 Sep 79
- ³Hanlon CR: Medical ethics. *Bull Am Coll Surg* 64(9):1, Sep 79

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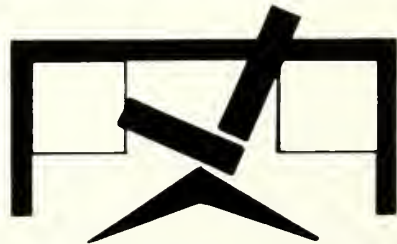
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Editorials (continued)

Tip of the Iceberg — Continued

We have on previous occasions discussed in these columns the great variety of ways in which alcoholism scourges man and society.

A recent paper reports on a study of cold injuries at Cook County Hospital in Chicago during the ten winter seasons 1962-3 through 1971-2. In this period there were cold spells with temperatures falling to minus 20 degrees Fahrenheit (-52).

There were 843 patients in the series. Forty per cent required surgical management. Twenty per cent required two to seven operations. Amputations at the tarsal-metatarsal level were required in 120 patients. Twenty-three patients required below knee and three above knee amputations. Of the 23 below knee patients, 16 required bilateral amputations, and one of the above knee amputation cases was bilateral. The number of hand amputations is not stated, but there were three wrist and one bilateral forearm amputations described.

Only one-third of the patients were certain of having worn shoes and socks during the exposure. Only 10 per cent of those requiring surgery could remember wearing gloves or overshoes. Delay in seeking medical help varied from 12 to 36 hours. Twenty-one patients died. The number that died of exposure before admission is, however, known only to God.

Fifty-two per cent were under the influence of alcohol at the time of exposure.

Reference

Goswick JA, Thompson JD, Jonas RA: Epidemiology of cold injuries. Surg Gynec Obstet 149:326-336, Sep 79

Safety Packaging

Recent studies appear to indicate that safety packaging as mandated in the federal Poison Prevention Packaging Act of 1970 has been effective in reducing the accidental ingestion

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of aspirin and aspirin-containing products among children under 5 years of age. Data from Poison Control Centers and the National Center for Health Statistics were compared to determine the incidence of ingestion before and two to three years after the safety closures were required. Separate analyses were carried out for baby and adult aspirin products.

For baby aspirin it is estimated that safety packaging has reduced the incidence of accidental ingestion by 45 to 55 per cent. For adult aspirin products the reduction amounted to 40 to 45 per cent.

These are significant improvements and tend to establish the efficacy of the new law in reducing the incidence of accidental poisoning by these and similar products.

An unanticipated side-effect of the new law, however, has been the difficulty many elderly patients have encountered in opening the new packages. Some have become so frustrated that they have neglected to take their medicines. This writer, who has at least average intelligence and facility, has encountered packages which could not be opened until the tops were broken.

It is important, therefore, that physicians take cognizance of this problem and assure that patients receive their prescriptions in packages which they can open. Physicians have the privilege of ordering conventional or non-safety packaging for patients where such difficulties may be anticipated.

On the whole, however, we should judge that the new law is worthwhile.

Reference

Clarke A. Walton WW: Effect of safety packaging on aspirin ingestion by children. *Pediatrics* 63:687-693, May 79.

One Sentence Essay

Never go to a doctor whose office plants have died.

... quoted from one "Erma Brombeck" by Nanette K. Wenger, MD, in *Harvard Medical Alumni Bulletin*, July-August, 1979

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Rhode Island Medical Journal

December, 1979

Vol. 62, No. 12



Special Report: Evaluation of SHCC Plan

CME Calendar

January - June 1980

Newsletter Enclosed

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A character all its own.



Valium (diazepam/Roche) is a benzodiazepine with a character all its own.

Pharmacologically, it is a potent skeletal muscle relaxant and anticonvulsant (in adjunctive use), as well as an antianxiety agent. Pharmacokinetically, only Valium provides active *diazepam* as well as the active metabolites 3-hydroxydiazepam, desmethyldiazepam and oxazepam.

But the individual character of Valium is even more apparent clinically than pharmacokinetically. And far more significant. That's because of the patient response obtained with Valium. A response which brings a calmer frame of mind. A response which has a pronounced effect on the somatic symptoms of anxiety, particularly muscular tension. A response which helps the patient feel more like himself again because of the way Valium reduces the overwhelming symptoms of anxiety and psychic tension.

Another important aspect of the clinical character of Valium is safety. Though drowsiness, ataxia and fatigue are possible, these and more serious side effects are rarely a problem. Of course, as with all CNS-acting drugs, patients taking Valium should be cautioned against driving, operating dangerous machinery or the simultaneous ingestion of alcohol.

Unquestionably, many psychotherapeutic agents, including other benzodiazepines, have antianxiety effects. But one fact remains: you get a certain kind of patient response with Valium. It's a response you want. A response you know. A response you trust as part of your overall management of anxiety and psychic tension.

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The effectiveness of Valium (diazepam/Roche) in long-term use, that is, more than 4 months, has not been assessed by systematic clinical studies. The physician should periodically reassess the usefulness of the drug for the individual patient.

Contraindicated: Known hypersensitivity to the drug. Children under 6 months of age. Acute narrow angle glaucoma; may be used in patients with open angle glaucoma who are receiving appropriate therapy.

Warnings: Not of value in psychotic patients. Caution against hazardous occupations requiring complete mental alertness. When used adjunctively in convulsive disorders, possibility of increase in frequency and/or severity of grand mal seizures may require increased dosage of standard anticonvulsant medication; abrupt withdrawal may be associated with temporary increase in frequency and/or severity of seizures. Advise against simultaneous ingestion of alcohol and other CNS depressants. Withdrawal symptoms (similar to those with barbiturates and alcohol) have occurred following abrupt discontinuance (convulsions, tremor, abdominal and muscle cramps, vomiting and sweating). Keep addiction-prone individuals under careful surveillance because of their predisposition to habituation and dependence.

Usage in Pregnancy: Use of minor tranquilizers during first trimester should almost always be avoided because of increased risk of congenital malformations as suggested in several studies. Consider possibility of pregnancy when instituting therapy; advise patients to discuss therapy if they intend to or do become pregnant.

Precautions: If combined with other psychotropics or anticonvulsants, consider carefully pharmacology of agents employed. Drugs such as phenothiazines, narcotics, barbiturates, MAO inhibitors and other antidepressants may potentiate its action. Usual precautions indicated in patients severely depressed, or with latent depression, or with suicidal tendencies. Observe usual precautions in impaired renal or hepatic function. Limit dosage to smallest effective amount in elderly and debilitated to preclude ataxia or oversedation.

Side Effects: Drowsiness, confusion, diplopia, hypotension, changes in libido, nausea, fatigue, depression, dysarthria, jaundice, skin rash, ataxia, constipation, headache, incontinence, changes in salivation, slurred speech, tremor, vertigo, urinary retention, blurred vision. Paradoxical reactions such as acute hyperexcited states, anxiety, hallucinations, increased muscle spasticity, insomnia, rage, sleep disturbances, stimulation have been reported, should these occur, discontinue drug. Isolated reports of neutropenia, jaundice, periodic blood counts and liver function tests advisable during long-term therapy.

Dosage: Individualize for maximum beneficial effect. **Adults:** Tension, anxiety and psychoneurotic states, 2 to 10 mg b.i.d. to q.i.d.; alcoholism, 10 mg t.i.d. or q.i.d. in first 24 hours, then 5 mg t.i.d. or q.i.d. as needed, adjunctively in skeletal muscle spasm, 2 to 10 mg t.i.d. or q.i.d., adjunctively in convulsive disorders, 2 to 10 mg b.i.d. to q.i.d. **Geriatric or debilitated patients:** 2 to 2½ mg, 1 or 2 times daily initially, increasing as needed and tolerated. (See Precautions.) **Children:** 1 to 2½ mg t.i.d. or q.i.d. initially, increasing as needed and tolerated (not for use under 6 months).

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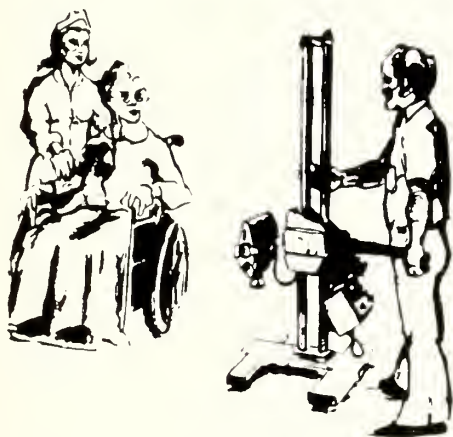


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Rhode Island Medical Journal

DECEMBER, 1979

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Rhode Island Medical Society

NEWSLETTER

James R. Clarkin, Editor

December, 1979

Attend the Public Hearings on SHCC Plan

SEE THIS ISSUE'S SPECIAL REPORT:
EVALUATION OF SHCC PLAN

Westerly

Westerly High School
Wednesday, January 2, 1980

Newport

Newport City Council Chambers
Thursday, January 3, 1980

Providence

RI Department of Health Auditorium
Tuesday, January 8, 1980

Woonsocket

Woonsocket High School
Wednesday, January 9, 1980

Warwick

Community room in public safety building behind
Warwick Town Hall in Apponaug
Thursday, January 10, 1980

Kingston

Chafee Hall, URI
Wednesday, January 16, 1980

Pawtucket

Tolman High School
Thursday, January 17, 1980

Expanded Provisions Under EPSDT

Peter L. Mathieu, M.D.

By the cooperative efforts of the Rhode Island Medical Society, the Rhode Island Academy of Pediatrics and the Rhode Island Department of Health, the Division of Medical Services of the Department of Social and Rehabilitative Services is expanding its provisions under the Early and Periodic Screening, Diagnosis and Treatment (EPSDT) program of the Medical Assistance Program. The expanded services are detailed in a new periodicity schedule of procedures, available from the Division of Medical Services. The major changes are as follows:

1. In accordance with new HEW regulations, all children three years of age and older must be referred directly to a dentist for a dental examination on an annual basis.

2. Sickie cell and lead testing need only be provided to individuals at risk or when otherwise indicated or deemed necessary by the attending physician.

3. A simple audiometric hearing test must be performed at least once during the 3-5 year age period.

The MA 350 examination form, which is currently being revised, will continue to be utilized for the initial examination of any child under the age of 21. A fee of \$25.00 plus the cost of appropriate laboratory services will be allowed when the MA 350 examination form is submitted along with the MA 501 billing form. A new form, MA 400, has been developed for use in the periodic examinations. An allowance of \$15.00 plus the cost of appropriate laboratory services will be allowed when the MA 400 examination form is submitted along with the MA 501 billing form.

Any pediatrician, general practitioner, internist or health center physician can provide EPSDT examinations with scheduling and transportation assistance provided by the Department of Social and Rehabilitative Services. This is an excellent program, which the Rhode Island Medical Society supports in planning and implementation. Members are urged to participate.

New Members

The Rhode Island Medical Society is pleased to extend a warm welcome to the following new members:

John J. Bert, Obstetrics/Gynecology
Roger L. Brotman, Radiation Oncology
Philip J. Burnard, II, Thoracic/Cardiovascular Surgery
Joseph Ciabattone, Internal Medicine
Steven I. Cohen, Urology
Lawrence G. Colasanto, Anesthesiology
Luis M. Damiani, Jr., Internal Medicine
John M. Demicco, Internal Medicine/Rheumatology
Nathan B. Epstein, Psychiatry
Arthur A. Frazzano, Family Practice
James H. Herndon, Orthopedic/Hand Surgery
Paul C. Hessler, III, Radiology
Luis I. Hochheiser, Family Practice
Cing. B. Huang, anesthesiology
David Kaplan, Otolaryngology
Peng S. Lee, Pediatrics
George A. Lussier, Internal Medicine

Horace F. Martin, Clinical Pathology
Herbert H. Matthews, Jr., Endocrinology/Metabolism
Abdul Memon, Immunology/Oncology
Belarmino A. Nunes, General Practice
Edward C. Olchowski, Internal Medicine
Paul W. Roderick, Internal Medicine/Gastroenterology
Michael J. Ryvicker, Radiology
Harold A. Sanders, Internal Medicine
Kenneth H. Soll, Radiology
Wayne M. Trebbin, Internal Medicine/Nephrology
Jesus B. Valdepenas, General Surgery
Franzanne Vreeland, Hematology/Oncology
Barry M. Wepman, Ophthalmology
Mark M. Witoszka, Thoracic/Cardiovascular Surgery

Report of the Sub-Committee on SHCC

The following statements by Mr. John Tierney were made in three different communications, two of which were letters addressed to me as Chairman of the Sub-Committee on SHCC. (The letters are available in their entirety on request.)

In a memo to the citizens of Rhode Island dated November 27, 1979 Mr. Tierney outlines three options with respect to our health care delivery system: "1. Maintain the status quo; 2. Escalate health expenditures; or 3. Reallocate resources." He recommends 3. which he elaborates as follows:

"Under this option services such as hospital care which can be safely reduced would receive less investment and other services such as home health care, ambulatory care and others would receive more investment. In this way, a *more cost/effective health care delivery system* could be achieved without greatly expanding the total investment in health care."

On September 24, 1979 Mr. Tierney wrote in a letter to our Sub-Committee the following:

"With respect to cost/effectiveness and benefit/cost analyses, we are hampered by the general lack of scientifically sound studies of the efficacy or effectiveness of medical and health programs. Further, we are not in a position to conduct such studies ourselves. We must rely upon existing professional and scientific literature. Also, there are problems in linking utilization and cost data. Nevertheless, health planning and decision making must move forward, based on the best available information."

In a later letter dated November 8, 1979 Mr. Tierney stated:

"Finally, health planning is still in its formative stages of development. Clearly, nobody knows the best way to conduct rational planning in a democratic manner. Constructive modifications to the process will be required as we gain more experience. With the good will and commitment of various segments of Rhode Island's population, health planning will be a positive force for progressive change."

Do you obtain previous reports and lab results when a patient is referred to you?

Society's Recommendations: Revision of Guardianship Laws

The Rhode Island Medical Society has presented preliminary comments on the review and revision of the laws of Rhode Island concerning the appointment of guardians. Represented by Howard Lawton, Assistant Executive Director, the Society advised certain changes in the language of the laws to remove connotations of intended wards as disheveled and raving persons as is suggested by the language of the present laws. Also, concerning testimony in support of the appointment of a guardian, the Society recommended that the testimony of relatives, friends, clergymen or physicians, *whichever* is most aware of the intended ward's mental

There seems to be a series of contradictions between these statements. If the state is "hampered by the general lack of scientifically sound studies of the efficacy or effectiveness of medical and health programs"; and if there are "problems in linking utilization and cost data"; and "if nobody knows the best way to conduct rational planning in a democratic way"; then how can we rightfully expect that State plans to reallocate resources will contribute to "a more cost/effective health care delivery system"? How much is this new bureaucracy really going to cost our taxpayers?

Our Governor J. Joseph Garrahy said on August 19, 1979 when he addressed a national meeting of Blue Cross/Blue Shield executives in Boston:

"The state is saving dollars, Medicare and Medicaid are saving dollars, and the hospitals are proud of what has been accomplished voluntarily."

"It is interesting to note, and I do so with a great deal of pride, that Rhode Islanders have saved over \$34 million in hospital costs as a direct result of the first four years of our prospective reimbursement program."

He noted, too, that the Rhode Island cost-containment effort has achieved a rate of inflation which is already lower than the anti-inflation goals being discussed in Congress.

Decisive leadership will become even more critical in the 1980's, Garrahy asserted, because health costs pose such a challenge to budgeting and budget control.

In Rhode Island, he explained, the health care system no longer permitted to design its own expansion, then either the taxpayers or third party insurers for the cost involved." "Our experience is built on a foundation of good faith, hard negotiations and dedication . . . trying to control our own destiny in a voluntary way," the Governor said.

It would appear that we are being offered a pig in a polio since we already know that our Governor is proud of what we are doing and yet we are asked to accept recommendations formulated with a "lack of scientifically sound studies."

Charles E. Millard, M.D.
Chairman

Do you resist patient pressure to prescribe tests, treatments or medications which you feel are harmless but unnecessary?

status, be presented. It was stressed that in cases where a physician has not been regularly attending a particular person, the testimony of relatives, friends or other groups may be far more valuable to the court than that of a physician.

The Society also recommended that a sworn physician's report be acceptable in lieu of the personal appearance of the physician in the hearing procedure; that the statute should contain reasonably specific guidelines as to the form and contents of the physician's report; that the probate court should be authorized to appoint one or more physicians or mental health experts to examine the intended ward, particularly where there is a dispute over the appropriateness of the appointment; and that the statute should incorporate language relieving any witness of any liability except for fraud or malice.

Finally, with respect to the powers of a guardian, the Society recommended that a guardian's power to authorize medical care be clearly specified in the statute.

Council Briefs

Meeting November 5, 1979
Charles L. Hill, MD, Presiding

Appointed a Committee to suggest nominees to the Blue Shield Board of Directors.

Approved a proposal from the Committee on the Impaired Physician to contact hospital staffs, administrators, and directors of nurses about the Committee's program.

Approved a motion that the House of Delegates meet at 7:00 pm on Wednesday, March 26, 1980 with adjournment in order to attend the annual meeting of the Blue Shield Corporation at 5:00 pm.

Approved a motion to increase the present subsidy to the *Rhode Island Medical Journal*.

Approved a motion to investigate the IPA as a method of providing health care.

Approved a motion to explore the feasibility of the Society performing secretarial work for specialty and district societies for a reasonable cost.

Authorized the Finance Committee and Atty. Charles E. Hill to proceed to conclude a purchase agreement for 9 & 10 Hayes Street.

Approved an annual 5% cost of living increase for Mr. John E. Farrell, former Executive Secretary, effective January 1, 1979.

Council and House Meetings

Monday, January 14, 1980 — Council

Wednesday, January 30, 1980 — House

Monday, March 10, 1980 — Council

Wednesday, March 26, 1980 — House

House of Delegates meetings begin at 2:00 pm. All Society members are invited to attend.

Background to History

Q. Why did the Shah of Iran leave the New York Hospital?

A. The hospital Utilization Review Committee recommended discharge, because he no longer needed acute hospital care.

Q. Why did he go to a government hospital?

A. Government hospitals do not have utilization review committees.

Q. Why did he leave at 4:00 AM?

A. If he were not out by 11:00 AM, he would have been charged for another day. Anyway, the Shah is an early riser.

S.J.G.

Personal Viewpoint . . .

. . . from Robert D. Coli, MD

"... we physicians should sponsor and create our own company, an 'Ocean State Health Plan' . . ."

The nationwide success of privately sponsored and independently managed and marketed Individual Practice Association (IPA) type HMOs, such as the St. Louis Metro Health Plan and The Michigan Master Health Plan, presents a vital question to Rhode Island's local practicing physicians. Can we in Rhode Island —by organizing and underwriting our own company, by accepting some financial risk, by writing and self-enforcing rules relating to fees and utilization — provide cost effective, prepaid comprehensive quality medical care without sacrificing the professional freedoms and values we all cherish? In St. Louis and in Detroit, the strongest motivation for the establishment of the Doctors' Plan was the realization that the marketplace was looking for prepaid health care in an atmosphere of cost containment. Another important motivating force was the concern that Big Business might take some unilateral action to restrain the "escalating cost crisis" by such means as the staff model HMO developed and managed by the R.J. Reynolds Company in Winston Salem, North Carolina. In Rhode Island, also, we should re-evaluate our position in relation to financing and delivery of prepaid health care.

The time has come for physicians to "get together and do something." Private practice as we have known it in offices and hospitals is disappearing — going somewhere else. Where? To prepaid medical programs. The HMO is here to stay, and unless physicians voluntarily get into the management side of health care delivery, most of us could become employees taking care of X-patients with X-faces, X-names and X-numbers.

Rather than wait for this to happen in Rhode Island, we should sponsor and create our own company, an "Ocean State Master Health Plan," and reach out to the business community to develop with them a program of comprehensive care. Such a company would include the mechanisms for cost control that medicine, industry and government want, and at the same time would preserve those elements that we want: the patient-physician relationship, the fee-for-service concept and the accommodation of all types of practices and all types of settings. We would work for ourselves, because we would own ourselves. We would agree from the beginning to accept no outside funding, either from the government or an insurance company. Then we would no longer be forced to practice medicine the way insurance companies write their policies, but rather insurance companies would have to write their policies the way we physicians practice medicine.

The Ocean State Master Health Plan could be structured along the same lines as the St. Louis and Detroit Plans which are divided into two essential parts, out-patient representing 60 per cent of the total service, and in-hospital representing 40 per cent. The cost of the in-hospital portion would be based on a predetermined rate of utilization and paid on a claims basis. Physicians and the businesses and/or employees covered by contract would share a positive incentive to keep utilization below the present level by sharing whatever surplus accrues from favorable utilization, one-third going to the physicians and two-thirds to the company or employees. It is obvious from experience with all types of HMOs that the hard line in any new type of health care financing and delivery system is utilization control. In an independent privately

Personal Viewpoint . . .

(continued)

"... a sophisticated prepaid health program, with built in cost controls ..."

sponsored Doctors' Plan, we physicians would have to control utilization without reducing quality. We would need to accept and encourage the kind of utilization review, both in-patient and out-patient, that has often been resisted in the past when administered by governmental agencies.

The out-patient portion of the program would cover not only all physician services but also all ancillary services (drugs, x-rays, laboratory tests), and all administrative costs. In regards to ancillary services, the physicians and the ancillary suppliers would be responsible for keeping to predetermined standards — the physicians for utilization, and suppliers for price and quality.

The management company would be at risk for its administration of the plan. The company would not get paid a percentage of either the premiums or the claims, thus eliminating incentives for increases such as exist in traditional programs, but would be paid rather on a capitation fee basis for administrative services, and it would be accountable for unnecessary costs incurred above the capitation rate.

For administrative efficiency the Doctors' Plan would employ a computer system for speedy claims processing, which would also be used for peer review to monitor the cost, quality, and appropriateness of both ambulatory and in-patient care.

Review would begin with fees. At the beginning of each fiscal year, physicians would file their fees and charges for the coming year. The fees would be profiled at the 75th, 90th and 95th percentiles, and the only fees that the review committee would be interested in would be those above the appropriate doctor-selected percentile.

Every month the plan's peer review committee would analyze utilization profiles. Each physician would be listed individually by code within his specialty, and his utilization profile—including in-office and hospital utilization referrals, office callbacks per patient, x-rays, EKGs, injections and so on—would be compared to those of his specialty peers. Plan physicians would receive the records of other plan physicians' utilizations profiles on a quarterly basis.

The success of the plan will depend on controlling utilization in two areas in particular: hospitalization and psychiatric services.

The hospital certification program would provide three criteria for short-stay hospital admission:

- 1) A condition that requires life support modalities available only in a hospital.
- 2) A diagnostic problem for which adequate studies can not be performed on an out-patient basis.
- 3) Contemplated procedures which require in-patient admission, particularly in areas of the state where out-patient surgery facilities are not yet available.

At the outset the plan would use the Professional Activities Study (PAS) 50th percentile for length-of-stay and would aim to reduce the number of in-patient days from 800 – 1,000 to below 500 per 1,000 plan members within three years. The first time a physician is responsible for a non-certified admission or length-of-stay he would be notified in writing and the

charges would be paid as usual. The second time, the fee would be paid from the "physicians' fund" — that portion of the physicians' fees (20 per cent) that is withheld in advance. This means that all physicians in the plan would suffer some loss from the improper activity of an errant physician. The third time, the cost would be deducted directly from the errant physician's next month's claim payment from the plan. Then the physicians would be dependent on the same predetermined pot of money for fees has been argued by some as an eventual point of crunch: "As long as the money is in the pot, there will be those who will want to draw on the pot. Quite to the contrary, physician assumption of financial risk and in particular this dependence on the same pot of money could be the major factor that will make the Ocean State Doctors' Plan succeed. Cost containment with simultaneous enhancement of accessibility and quality of care can only be achieved when the activity of each physician affects all other physicians in the plan.

For in-patient psychiatric care the plan would offer a package similar to that of the Blues and other commercial insurers, and it would also experiment with out-patient psychiatric care. Although final details have not been established, the plan would probably provide for \$1,000 coverage per patient per year, which amounts to about 20 visits to a psychiatrist office, as contrasted with the 50 per cent of charges or \$100 per visit that traditional health insurers offer. To monitor utilization, the plan would establish an ongoing recertification process, so that for a disease such as schizophrenia the treating psychiatrist might be required to go before the review committee after a few visits and explain why additional visits are needed.

In summary, the Ocean State Master Health Plan would be a sophisticated prepaid health program with many more built in cost controls and financial incentives than the closed panel HMOs of the Staff or Group Practice models which would be marketed directly to the Rhode Island business community by the plan staff.

The Doctors' Plan should deliberately begin operations on a modest scale, and represent at the outset no more than 10 per cent of any physician's practice. The five-year goal would be to reach an enrollment of 50,000 or about 4 per cent of the Rhode Island population. When we reach that goal, as I believe we will, a privately sponsored, independent Master Health Plan will have proved itself right for Rhode Island.

Quiz

True False

Health care rationing is not desirable.

There is no excess of physicians in R.I.

Rational health planning is possible.

Don't miss:

WPRI-TV 12
"Area 12"
Sunday, December 30
12:30 pm

President's Page

Physicians and the System

We find ourselves practicing medicine in an atmosphere of ever-increasing distrust. Unnecessary surgery, second opinions, spiraling health care costs, physicians' vested interests, HMOs, Public Law 93-641, and National Health Insurance are some terms we must address. The dissatisfaction with the health care industry will not go away by itself. Our egos must rise above a sense of personal insult and frustration to allow the Rhode Island Medical Society to assume leadership necessary to strive for a fair and responsive health delivery system. We must stop merely reacting to objectionable proposals, and start to show some vision by embarking into areas of alternative systems, making our own determinations relative to quality, accessibility, and cost effectiveness.

Throughout the country, there is overwhelming pressure from government and planning agencies to impose HMOs. However, many HMOs are developed out of biased statistics and are not successful. Therefore, the Council of the Rhode Island Medical Society now recommends to its membership that we explore and encourage a physician sponsored Independent Practice Association in Rhode Island. Doctor Robert Coli is chairing the committee to evaluate a program for an IPA. Participation will be voluntary; funding will be through the participants and administrators. It is a method by which we can insure the personal bond found in the classical physician-patient relationship — the intangible essential ingredient of a successful medical delivery system — and take a step to respond creatively to the demand for change and provide better care for the community.

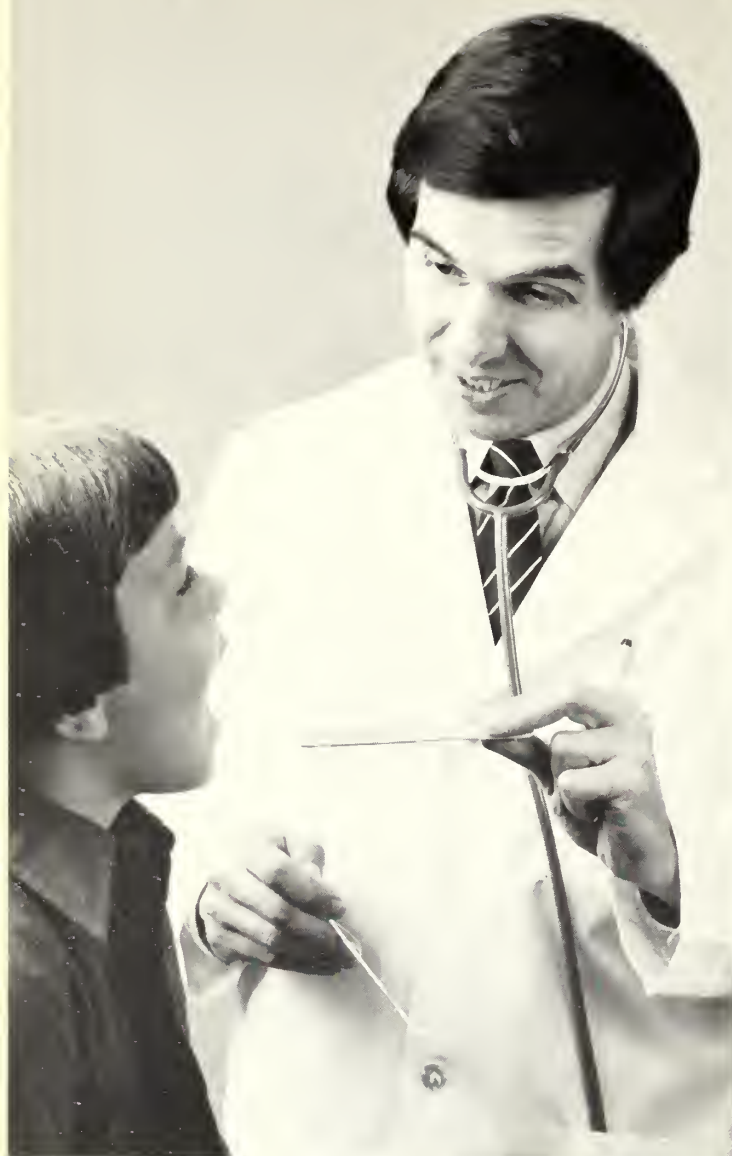


Charles L. Hill, MD

We are fortunate to have a forceful core of evangelists who have the ability to understand the causes for the many pressures placed upon our system, and to plan in a mature fashion for the future. Hopefully, the agnostics among us will be objective in their own evaluations and make a decision whether to join the IPA on its merits, rather than show the kind of reactionary response we have been known to exhibit in the past.

We have an opportunity to work to improve the health of the system. Please, let us accept it!

Charles L. Hill, MD
President



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CONTINUING MEDICAL EDUCATION CALENDAR

January — June, 1980

prepared by



BROWN UNIVERSITY
Office of Continuing Medical Education

and



RHODE ISLAND MEDICAL SOCIETY
Continuing Medical Education Committee

Inquiries on all events listed below should be directed to Mrs. Irene Owens, Brown University Office of Continuing Medical Education, 863-3337

REGULARLY SCHEDULED ACCREDITED PROGRAMS

credit
hours

BROWN UNIVERSITY AFFILIATED HOSPITALS TRAINING PROGRAM IN DERMATOLOGY:

CLINICAL CONFERENCES	(2)	2nd & 4th Thursdays 8:30 am	Varies (See Schedule Below)
GUEST LECTURER PROGRAM Lecture Schedule Listed Below)	* (2)	2nd Thursday Noon 7:30 pm	West I Conf Rm, RWGH 405 Biomed Ctr, Brown U

4 credit hours for both lectures

CLINICAL CONFERENCES LOCATIONS

JANUARY 10	VA Hospital
JANUARY 24	Memorial Hospital
FEBRUARY 14	RI Hospital
FEBRUARY 28	VA Hospital
MARCH 13	RI Hospital
MARCH 27	Memorial Hospital
APRIL 24	VA Hospital
MAY 8	RI Hospital
MAY 22	Memorial Hospital
JUNE 12	RI Hospital
June 26	Newport Hospital

GUEST LECTURER PROGRAM SCHEDULE

FEBRUARY 14

Noon Lecture: "ERYTHROPOIETIC PROTOPORPHYRIA: CURRENT CONCEPTS OF PATHOGENESIS, DIAGNOSIS, AND TREATMENT" presented by Maureen B. Poh-Fitzpatrick, MD, Assistant Professor, Columbia U Med Ctr
Evening Lecture: "WHAT'S NEW IN PORPHYRIAS"

MARCH 13

Noon Lecture: Lecturer will be Michael J. Albom, MD, New York U Med Ctr, topic to be announced.
Evening Lecture: To be announced.

MAY 8

Noon Lecture: "VASCULAR AND EPIDERMAL CHANGES IN PSORIATIC SKIN IN RESPONSE TO PUVA AND GOEKERMAN THERAPY" presented by Irwin Braverman, MD, Professor of Dermatology, Yale U
Evening Lecture: "STUDIES ON AGING OF THE SKIN"

NE 12
 Noon Lecture "NEWER STUDIES OF THE COLLAGENS AND THEIR DISTRIBUTION AND ROLE IN DISEASE"
 presented by Stephen I. Katz, MD, Senior Investigator, Dermatology, National Cancer Inst
 Evening Lecture "THE ROLE OF EPIDERMAL LANGERHANS' CELLS IN IMMUNITY"
 or further information, contact Ms. Ventura, 456-2060

BUTLER HOSPITAL

ROWN UNIVERSITY ACADEMIC GRAND ROUNDS Lecture Schedule listed below)	(1½)	4th Thursday	10:30 am - 12:00 Noon	Location varies
CLINICAL TEACHING CONFERENCES September, 1979 - June, 1980)	(1½)	Wednesdays	8:30 am - 10:00 am	Providence Mental Health Center
WORKSHOPS IN PSYCHOTHERAPY September, 1979 - July, 1980)	(1½)	3rd Thursday (tentative)	8:30 pm - 10:00 pm	Ruggles Room

ROWN UNIVERSITY ACADEMIC GRAND ROUNDS LECTURE SCHEDULE

JANUARY 23 12:00 - 1:00 pm	Rhode Island Hospital, George Auditorium "COCAINE" presented by Dr. Robert Byck, Professor of Psychiatry and Pharmacology, Yale University School of Medicine
FEBRUARY 28 10:30 - 12 Noon	Bradley Hospital, Pine Room "CRISIS IN ADOLESCENCE" presented by Dr. Anthony Dowling (Dr. Barry Garfinkel will be the discussant)
MARCH 27	Institute of Mental Health Speaker to be arranged
APRIL 24 10:30 - 12 Noon	Providence Mental Health Center, Day Treatment Program, Basement of Trinity Church, 375 Broad Street, Providence "TARDIVE DYSKINESIA — IMPLICATIONS FOR THE CARE OF CHRONIC PATIENTS" presented by Dr. Daniel E. Casey, Assistant Professor of the Departments of Psychiatry and Neurology, University of Oregon Health Sciences Center
MAY 22	Butler Hospital Speaker to be arranged

or further information, call 277-5291
 PLEASE NOTE DAY CHANGE

KENT COUNTY MEMORIAL HOSPITAL

EDICAL EDUCATION PROGRAM Lecture Schedule listed below)	(1)	Fridays	11:30 am - 12:30 pm	Doctors Auditorium A
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EDICAL EDUCATION PROGRAM LECTURE SCHEDULE

JANUARY 11	"NEW SERVICE AT KENT COUNTY MEMORIAL HOSPITAL — INTRA AORTIC BALLOON" presented by Richard Perry, MD, Surgeon, Kent County Memorial Hospital and Kenneth Salzsieder, MD, Internal Medicine, Kent County Memorial Hospital
JANUARY 18	"EVALUATION AND SELECTION OF PATIENTS FOR CORONARY ARTERY SURGERY" presented by John Yashar, MD, Surgeon, Kent County Memorial Hospital
JANUARY 25	"WHO NEEDS A PACEMAKER?" presented by Felix Balasco, MD, Internal Medicine, Kent County Memorial Hospital
FEBRUARY 1	"PLASTIC RECONSTRUCTIVE SURGERY TODAY" presented by Vincent Iacono, MD, Surgeon, Kent County Memorial Hospital
FEBRUARY 15	"PART II — USE OF BLOOD — STATUS OF RI BLOOD BANK" presented by Roland Yankee, MD, Director, RI Central Blood Bank
FEBRUARY 29	"CPC SURGERY" presented by Joseph Hansagi, MD, Chief of Pathology, Kent County Memorial Hospital
MARCH 7	"DIABETES" (Upjohn) presented by Charles B. Kahn, MD, Diabetes-Endocrinology, RI Hospital
MARCH 14	"SEPTIC SHOCK — RECOGNITION AND TREATMENT" presented by David Lowe, MD, Internal Medicine, Kent County Memorial Hospital
MARCH 21	"TOTAL HIP REPLACEMENT" presented by William Garrahan, MD, Orthopedics, Kent County Memorial Hospital and Edwin Madden, MD, Chief of Orthopedics, Kent County Memorial Hospital
MARCH 28	"AS IT HAPPENED SERIES" (Speaker to be announced)

THE MEMORIAL HOSPITAL

PHYSIOLOGY CONFERENCE	(1)	Tuesdays	8:30 am - 9:30 am	Richardson 1 Lecture Room
FAMILY PRACTICE CONFERENCE (Lecture Schedule listed below)	(1)	Wednesdays & Thursdays	12:00 Noon	Richardson 1 Lecture Room
MEICAL GRAND ROUNDS	(1)	Wednesdays	10:00 am	Richardson 1 Lecture Room
OBSTETRIC CONFERENCE	(1)	Thursdays	8:00 am	Hodgson Conference Room 550
PHYSIOLOGY CONFERENCE (SURGICAL)	(1)	Thursdays	2:30 pm	Museum Conference Room
PEDIATRIC CONFERENCE	(1)	Thursdays	9:00 am	Pediatric Unit
PHYSICAL GRAND ROUNDS	(1)	Thursdays	8:00 am	Richardson 1 Lecture Room
PHYSICAL SERVICE CONFERENCE	(1)	Thursdays	4:30 pm	Richardson 1 Lecture Room

FAMILY PRACTICE CONFERENCE LECTURE SCHEDULE

JANUARY 2	Dr. Herndon will discuss BACK PROBLEMS
JANUARY 9	Lecture about NEUROLOGICAL ASSESSMENT OF NEONATES
JANUARY 16	Discussion of CONDUCT OF LABOR: INDICATIONS FOR INDUCTION EPISIOTOMY AND REFERRAL
JANUARY 30	Denise Mellors will discuss MEDICAL RECORDS
JANUARY 31	Dr. Brian Jones will discuss MINOR SURGERY IN THE OFFICE
FEBRUARY 6	Dr. Sadick will discuss GENETICS
FEBRUARY 13	Discussion of INFECTIOUS DISEASE IN THE NEONATE
FEBRUARY 14	Dr. Philip Stubblefield will discuss CURRENT TECHNOLOGY FOR ABORTION
FEBRUARY 20	Discussion of PHYSIOLOGY OF REPRODUCTION AND METHODS OF FERTILITY CONTROL
FEBRUARY 27	Dr. P.J. Middleton will discuss VIRAL DIAGNOSES
FEBRUARY 28	Dr. P.J. Middleton will discuss VIRAL GASTROENTEROLOGY
MARCH 5	Dr. Carl Granger will discuss PHYSICAL REHABILITATION
MARCH 12	Dr. W. Oh will discuss METABOLIC PROBLEMS OF NEONATES
MARCH 13	Mr. Brian McNaught will discuss HOMOSEXUALITY FROM A PERSONAL VIEWPOINT
MARCH 19	Dr. Edwin Gold will discuss INTRAUTERINE GROWTH RETARDATION
MARCH 20	Dr. Russell Jones will discuss HEADACHES
APRIL 2	Dr. Carl Granger will discuss PHYSICAL REHABILITATION
APRIL 9	Dr. Jack Widness will discuss COMMON CONGENITAL MALFORMATIONS IN THE NEONATE
APRIL 10	Dr. J. Bloom will discuss MEDICAL ECONOMICS
APRIL 16	Dr. J. Evrard will discuss SPECIAL INVESTIGATIONS IN OBSTETRICS
MAY	Dr. Carl Granger will discuss PHYSICAL REHABILITATION
MAY 4	Dr. Patricia Rompf will discuss CARDIOVASCULAR DISEASE IN THE NEONATE
MAY 11	Dr. Edwin Gold will discuss HORMONAL CONTRACEPTION
JUNE 1	Dr. William Cashore will discuss ABNORMALITIES OF GROWTH
JUNE 8	Dr. J. Evrard will discuss PID AND VAGINAL INFECTION

For further information, call Dr. Jones, 725-0980

THE MIRIAM HOSPITAL

ANESTHESIOLOGY CONFERENCE	(1)	Every Thurs.	7:00 am - 8:00 am	Anesthesia Conference Room
CARDIOVASCULAR AND THORACIC SURGERY MORBIDITY AND MORTALITY CONFERENCE	(1)	4th Friday	7:30 am	Research Building, Room 104
CARDIOVASCULAR SURGICAL JOURNAL CLUB	(1)	2nd Friday	7:30 am	Research Building, Room 104
MEDICAL GRAND ROUNDS (Lecture Schedule listed below)	(1)	2nd & 4th Thurs.	11:00 am	Sopkin Auditorium
MEDICAL/SURGICAL JOURNALARY CONFERENCE	(1)	3rd Friday	7:30 am	Research Building, Room 104
VASCULAR SURGICAL CONFERENCE	(1)	1st Friday	7:30 am	Research Building, Room 104
PATHOLOGY CONFERENCES:				
AUTOPSY GROSS REVIEW		Mondays	3:30 pm	Morgue
AUTOPSY MICROSCOPIC CONF		Tuesdays	11:00 am	Lab Conference Room
HISTO-PATHOLOGY CONF		Alternate Thurs	11:00 am	Lab Conference Room
INTEGRATED PATHOLOGY RESIDENCY PROGRAM OF BROWN UNIVERSITY		Monthly, Sept-June	4:00 pm	Varies

SURGICAL MICROSCOPIC CONF.	Wednesdays	11:00 am	Lab Conference Room
SURGICAL MORTALITY CONF.	Thursdays	8:00 am	Lab Conference Room
TUMOR BOARD	Alternate Fridays	8:00 am	Lab Conference Room
TOPICS IN INTERNAL MEDICINE (Lecture Schedule listed below)	Daily, Mon-Fri	Noon	Sopkin Auditorium

MEDICAL GRAND ROUNDS LECTURE SCHEDULE

JANUARY 10	"DIABETIC NEPHROPATHY" presented by Eli Friedman, MD, Chairman, Department of Medicine, State University of New York Downstate Medical Center
JANUARY 24	"PULMONARY EXERCISE PHYSIOLOGY" presented by John S. Urbanetti, MD
FEBRUARY 14 BURGESS ORATION	"NUTRITIONAL FACTORS IN HYPERTENSION: THE ROLE OF SALT AND OBESITY" presented by Harriet Dustan, MD, Director of the Cardiovascular Research and Training Center, University of Alabama in Birmingham School of Medicine
MARCH 13	Lecture presented by George Canellos, MD, Chief of Medicine, The Sidney Farber Cancer Institute
APRIL 10 KIVEN ORATION	"ICU MANAGEMENT OF SEVERE BRAIN FAILURE" presented by Ake Grenvik, MD, Professor of Anesthesiology, Director of Critical Care Medicine, University of Pittsburgh School of Medicine and Health Center Hospitals

TOPICS IN INTERNAL MEDICINE LECTURE SCHEDULE

Dr. Howard Friedman (Neurology)
 Dr. Richard Shulman (Cardiology)
 Dr. Harold Horwitz (Rheumatology)
 Dr. Philip Torgan (Gastroenterology)
 Dr. Daniel Lederer (Pulmonary)
 Dr. Pavel Vancura (Renal)
 Dr. Antone Medeiros (Infectious Disease)
 Dr. Michael Friedland (Hematology)
 Dr. Charles Kahn (Endocrinology)
 Dr. Allan Deutsch (Radiology)
 Dr. Herbert Lichtman (Medical Grand Rounds & Morbidity/Mortality Conference)

For further information, call, 274-3700, ext 481

MORTON HOSPITAL Taunton, Massachusetts

CONTINUING MEDICAL EDUCATION LECTURES

(Lecture Schedule listed below) (2) 3rd Wednesday 8:00 am to 10:00 am Conference Room

CONTINUING MEDICAL EDUCATION LECTURE SCHEDULE

JANUARY 16	"TROPICAL DISEASES IN NEW ENGLAND" presented by A. Senft, MD, Professor Biochemical Pharmacology, Brown University
FEBRUARY 20	"PSYCHIATRIC EMERGENCIES" presented by Ms. Margo Inglese-Bieber, RN, MPH, Director of Psychiatric Nursing, RI Hospital; and Andrew E. Slaby, MD, MPH, Professor of Psychiatry and Human Behavior, Chief, Division of Psychiatry at RI Hospital
MARCH 19	"HEPATITIS UPDATE" presented by Michael Ginsberg, MD, Instructor in Medicine, Brown University
APRIL 16	"THYROID DISEASE" presented by Lewis Braverman, MD, University of Massachusetts
MAY 21	To be announced
JUNE 18	"SPORTS INJURIES" presented by Arthur Pappas, MD, University of Massachusetts

NEWPORT HOSPITAL

MEDICAL EDUCATION LECTURES (2) 1 Tuesday 7:30 pm - 9:30 pm Sky Room
 (Lecture Schedule listed below) per Month

MEDICAL EDUCATION LECTURE SCHEDULE

FEBRUARY 5	"CORONARY ARTERY DISEASE — CURRENT STATE OF THE ARTS" presented by Richard S. Shulman, MD, Associate Professor of Medicine, Brown University, Director, Division of Cardiology, M. Miriam Hospital; and M. Terry McEnany, MD, Professor of Surgery, Brown University, Surgeon-in-Chief, Miriam Hospital
MARCH 25	"UPDATE AND DIAGNOSTIC PROCEDURES IN GASTROENTEROLOGY" presented by Kenneth R. Falchuk, MD, Assistant Professor of Medicine, Harvard Medical School, New England Deaconess Hospital and Peter Bent Brigham Hospital, Director of Gastrointestinal Unit, New England Deaconess Hospital
*APRIL 19	"RECENT DEVELOPMENTS IN PSYCHOPHARMACOLOGY" presented by Alan J. Gelenberg, MD, Assistant Professor of Psychiatry, Harvard Medical School, Chief, Special Studies Clinic, Massachusetts General Hospital

*This lecture is scheduled for Saturday, April 19, from 10 am — 12 Noon, in the Sky Room.

NEWPORT NAVAL REGIONAL MEDICAL CENTER

DEAL SPECIAL (re Schedule listed below)	(2)	2nd Wednesday	3:00 pm	Command Conference Room (main building)
AL CLINICAL CONFERENCE (re Schedule listed below)	(*)	4th Wednesday	3:00 pm	Command Conference Room

DEAL SPECIAL LECTURE SCHEDULE

URY 9	"SPECIAL PROBLEMS OF WOMEN IN OUR HEALTH CARE SYSTEM" presented by Patricia Farnes, MD, Associate Professor of Medical Science, Brown University			
RARY 13	"IMMUNE AND COMPLEX DISORDERS" presented by Zbigniew A. Zawadzki, MD, Associate Professor of Medicine, Brown University			
RC 12	"STRESS RESPONSE SYNDROME" presented by Robert Nadol, MD, Clinical Assistant Professor of Psychiatry, Brown University			
RD	"SCREENING AND HEALTH PREVENTION" presented by Louis I. Hochheiser, MD, Associate Professor and Chairman, Family Medicine, Brown University			

DEAL CLINICAL CONFERENCE SCHEDULE

URY 23	"BIOFEEDBACK" presented by Psychiatry Service, Naval Regional Medical Center			
RARY 27	Conference presented by Internal Medicine Service, Naval Regional Medical Center			
RC 26	Conference presented by ENT Service, Naval Regional Medical Center			
RII 3	Conference presented by Oral Surgery Service, Naval Regional Medical Center			
Y 2	Conference presented by Pediatric Service, Naval Regional Medical Center			
E 5	Conference presented by Surgery Service, Naval Regional Medical Center			
Y 5	Conference presented by Laboratory Service, Naval Regional Medical Center			

RHODE ISLAND HOSPITAL

LEGY DIVISION CONFERENCE	(1)	Thursdays	8:00 - 9:00 am	APC, 6th Fl Conf Rm
ROLOGY:				
ON CONFERENCE	(1)	1st & 3rd Fridays	Noon	APC, Room 155
NO INVASIVE TESTING CONF	(1)	Once Monthly		Call 277-5891 for information
CH JOURNAL CLUB	(1)	Mondays	8:00 am	"
T:				
TAF CONFERENCE	(1)	Saturdays	8:00 am	X-ray Conf Rm, 2nd Fl
NT RESIDENTS LECTURE SERIES	(1)	Last Wed Monthly	8:00 - 9:00 am	Conf Rm, Hearing & Speech Ctr, 7th Fl, APC
STOENTEROLOGY:				
G.I. CONFERENCE	(1)	Alternate Mondays	Noon - 1 pm	APC, 155
OUNAL CLUB	(1)	2nd & 4th Tuesday	Noon - 1 pm	Private Dining Rms.
ATHOLOGY CONF	(1)	Every Friday	11:00 am - Noon	APC, 11th Fl
ATHOPHYSIOLOGY SEMINARS	(1)	Thursdays	8:00 - 9:00 am	APC, 155
ATHOLOGY CONF	(1)	Fridays	Noon - 1 pm	Main X-Ray
ROUNDS	(1)	Tuesdays & Fridays	2:00 - 4:30 pm	Main House
FECTIONOUS DISEASES:				
PEDATRIC	(1)	First Thursday	Noon	PDR #5
RIH MEDICAL INF DISEASES	(1)	2nd & 4th Tuesday	Noon	APC, Room 155
EDICAL ONCOLOGY:				
OMBINED ONC & MNGMT CONF	(1)	Every Wednesday	1:30 - 2:30 pm	George Bldg Lib
MULTIDISCIPLINARY TUMOR CONF	(1)	3rd Thursday	4:00 - 5:00 pm	George Aud
ONCOLOGY CONF	(1)	1st & 3rd Tuesday	Noon - 1 pm	George Bldg Lib
EDICINE:				
MEDICAL GRAND ROUNDS	(1)	Wednesdays	Noon - 1 pm	George Bldg Aud
SUBSPECIALTY CONFERENCES	(1)	Monday, Tues., Wed., Thurs., Fri.	Noon	APC, Room 155
UROLOGICAL CONFERENCES	(1)	Every Wednesday	11:00 am	Conf Rm on 6A
URG SURGERY:				
CLINICAL ROUNDS	(1)	Every Monday	8:00 - 9:00 am	
NEURO-PATHOLOGICAL CONF				
W/M. RY AMBLER, MD	(1)	Every Monday	11:30 am - Noon	Dr. Ambler's Off, 2nd Fl
NEURO-RADIOLOGICAL CONF	(1)	Every Monday	9:00 - 10:15 am	X-Ray Conf Rm
NEUROSURGICAL CLINIC	(1)	Every Monday	11:00 - 11:30 am	Neurosurgical Clinic
NEUROSURGICAL PLAN CONF	(1)	Every Monday	10:15 - 10:45 am	6B Conf Rm
UCLER MEDICINE CONFERENCE	(1)	Every Friday	8:00 - 9:00 am	APC, 10th Fl

OPTHALMOLOGY: GLAUCOMA, RETINA, PATHOLOGY & EXTERNAL DISEASE CONF				(1)	Monthly		Call 277-4922 for info
STAFF CONFERENCE				(1)	3rd Saturday	8:00 am	APC, 7th Fl
OTOLARYNGOLOGY: CME CONFERENCE				(1)	Every Tuesday	7:00 - 8:00 am	X-Ray Conf Rm, 2nd Fl
CPC				(1)	Every Saturday	8:00 - 9:00 am	"
PATHOLOGY: BONE PATHOLOGY CONF				(1)	First Wednesday	5:00 pm	Surg Sign-out Rm, 2nd Fl Main Bldg
COMBINED PATH/MED CONF				(1)	Last Wednesday	Noon	George Aud
GI PATHOLOGY CONF				(1)	Every Friday	11:00 am	APC, 11th Fl Conf Rm
GROSS ORGAN REVIEW				(1)	Mon, Tues, Wed, Thurs.	8:15 am	Autopsy Conf Rm, 2nd Fl, George Bldg
NEUROPATHOLOGY CONF: Neurosurgical				(1)	Every Monday	11:00 am	Neuropathology Lab 2nd Fl, Main Bldg
Neurological				(1)	Once Weekly	Varies	Varies
PATHOLOGY CONF				(1)	Every Thursday	10:45 am	APC, 11th Fl Conf Rm
RENAL PATHOLOGY CONF				(1)	Third Monday	1:00 pm	APC, 11th Fl Conf Rm
SURGICAL MICRO CONF				(1)	Every Tuesday	11:00 am	Surg Sign-out Rm, 2nd Fl Main Bldg
WEDNESDAY DIDACTIC CONF (Lecture Schedule Listed Below)				(1)	Wednesdays Monthly	3:45 pm	APC, 11th Fl Conf Rm
WEEKLY AUTOPSY CONF				(1)	Every Friday	1:30 pm	Autopsy Conf Rm, 2nd Fl, George Bldg
PEDIATRIC CARDIAC CATHETERIZATION CONF				(1)	Every Tuesday	4:00 pm	APC, 8th Fl Conf Rm
PSYCHIATRY: CASE CONFERENCE				(1)	Every Friday	10:30 am - Noon	6A Conf Rm
JOINT MED/PSYCH GRAND ROUNDS				(1)	Wednesdays	Noon - 1:30 pm	
PSYCHOLOGICAL ISSUES OF LIFE THREATENING ILLNESS				(1)	Tuesdays (10/29 - 3/4/80)	10:00 - 11:00 am	Private Dining Rms 1, 2, 3
PULMONARY: GRAND ROUNDS				(1)	Thursdays	Noon - 1:00 pm	APC, Rm 155
JOURNAL CLUB				(1)	Wednesdays	8:30 - 9:30 am	APC, Rm 155
RENAL: CLINICAL NEPHROLOGY CONF				(1)	Every other Monday	Noon	APC, Rm 155
RENAL SEMINAR				(1)	2nd, 3rd, 4th, 5th Fridays	Noon	Dialysis Unit Conf Rm
SURGERY: GRAND ROUNDS				(1)	Wednesdays	7:30 am	
INTENSIVE CARE UNIT CONF				(1)	Saturdays	8:00 am	APC, Rm 155
MORTALITY AND MORBIDITY CONF				(1)	Monthly	7:30 am	George Bldg Aud

WEDNESDAY DIDACTIC CONFERENCE LECTURE SCHEDULE (PATHOLOGY)

JANUARY 9	BERTHA FANGER MEMORIAL LECTURE — "THERAPEUTICS AS A TOOL OF HUMAN CANCER BIOLOGY" presented by James F. Holland, MD (please note: lecture will be held at 2:00 pm in George Auditorium)		
FEBRUARY 20	"SURFACE EPITHELIAL TUMORS OF OVARY" presented by S. Laughlin, MD		
MARCH 19	"DERMATOPATHOLOGY" presented by W.F. Lever, MD (please note: lecture will be held in George Auditorium)		
APRIL 16	To be announced		
MAY 21	"EPITHELIAL DYSPLASIA IN ULCERATIVE COLITIS" presented by J. N. Abbott, MD		
JUNE 18	To be announced		

RHODE ISLAND MEDICAL CENTER GENERAL HOSPITAL

CLINICAL PATHOLOGICAL CONFERENCE (Lecture Schedule listed below)	(1½)	Thursdays	10:30 am	Lab Classroom, Mathias Building
MEDICAL WARD ROUNDS		Wed, Thurs & Fri	9:30 am	Location varies
*PROBLEM CASE PRESENTATION (GRAND ROUNDS)	(1)	Tuesdays	10:30 am	LP Conference Room

For further information, contact Dr. Hassid, 464-3493.

*Comments by Irving Beck, MD

CLINICAL PATHOLOGICAL CONFERENCE LECTURE SCHEDULE

JANUARY 17	Neurological Case Presentation and Discussion by Thomas Sabin, MD, Chief, Neurology Unit, Boston City Hospital, Associate Professor of Neurology, Boston University Medical School Moderator: S. Pogacar, MD, Neuropathologist, Clinical Director, General Hospital, RI Medical Center, Clinical Assistant Professor of Neuropathology, Brown University
FEBRUARY 14	Case Presentation Moderator: S. Hassid, MD
MARCH 20	Neurological Case Presentation by William McEntee, MD, Associate Professor of Neurology, Brown University Moderator: S. Pogacar, MD
APRIL 10	Medical Case Presentation and Discussion Moderator: S. Hassid, MD
MAY 15	Neurological Case Presentation and Discussion by Flaviu C.A. Romanul, MD, Professor of Neurology, Boston University Medical School Moderator: S. Pogacar, MD

ROGER WILLIAMS GENERAL HOSPITAL

RADIOLOGY HOUSESTAFF CONFERENCE	(1)	1st Monday	12:30 pm	Center II Conference Room	(1)
CLINICAL PHARMACOLOGY HOUSESTAFF CONFERENCES	(1)	3rd Thursday	12:30 - 1:30 pm	Greene Lounge	
CLINICOPATHOLOGIC CONFERENCE (CP)	(1)	3rd Thursday	11:00 am - 12:00 Noon	Kay Auditorium	
ENDOCRINOLOGY HOUSESTAFF CONFERENCE	(1)	3rd Wednesday	12:30 pm	Center II Conference Room	
GASTROENTEROLOGY HOUSESTAFF CONFERENCE (Lecture Schedule listed below)	(1)	2 Fridays per Month	12:30 pm	Center II Conference Room	
HEMATOLOGY/ONCOLOGY HOUSESTAFF CONFERENCES (Lecture Schedule listed below)	(1)	Fridays	12:30 pm - 1:30 pm	Center II Conference Room	
INFECTIOUS DISEASE HOUSESTAFF CONFERENCE	(1)	1st Tuesday	12:30 pm	Center II Conference Room	
MEICAL GRAND ROUNDS (Lecture Schedule listed below)	(1)	Tuesdays	11:00 am - 12:00 Noon	Kay Auditorium	
NEPHROLOGY HOUSESTAFF CONFERENCE	(1)	2nd & 4th Tues.	12:30 pm	Center II Conference Room	
PEDIATRIC TEACHING ROUNDS (Lecture Schedule listed below)	(1½)	1 Friday per Month	10:30 am - 12:00 Noon	Kay Auditorium	
PHYSICIAN-IN-CHIEF'S ROUNDS	(1)	Thursdays	11:00 am	Kay Auditorium	
PULMONARY HOUSESTAFF CONFERENCES	(1)	4th Monday	12:30 pm	Center II Conference Room	
RHEUMATOLOGY GRAND ROUNDS	(1½)	Fridays	8:00 am - 9:30 am	*RWGH, VAMC, or RIH (Call 456-2069)	
UROLOGY ROUNDS	(1)	Fridays	8:30 am	*VAMC or RWGH (Call 456-2034)	
WEDNESDAY SURGICAL CONFERENCES	(1)	Wednesdays	7:30 am	Surgical Conference Room (4th Floor, Prior Hall)	

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GASTROENTEROLOGY HOUSESTAFF CONFERENCES LECTURE SCHEDULE

JANUARY 11	Thomas Flannery, MD
JANUARY 25	Jerome Walsh, MD
FEBRUARY 8	Herbert Rakatansky, MD
FEBRUARY 22	Nicholas Califano, MD
MARCH 7	Michael Turner, MD
MARCH 21	Richard McDermott, MD
APRIL 4	Edward Feller, MD
APRIL 18	Thomas Flannery, MD
MAY	Jerome Walsh, MD
MAY 5	Herbert Rakatansky, MD
JUNE 3	Nicholas Califano, MD
JUNE 7	Michael Turner, MD

HEMATOLOGY/ONCOLOGY HOUSESTAFF CONFERENCES LECTURE SERIES

JANUARY 4	"ASSESSMENT OF BLEEDING DISORDERS", presented by Angelina Carvalho, MD
JANUARY 18	"LUNG CANCER", presented by Michael C. Wiemann, MD
FEBRUARY 1	"HEMOLYTIC ANEMIAS", presented by Bruce T. Lyman, MD
FEBRUARY 15	"MYELOMA", presented by Francis J. Cummings, MD
MARCH 14	"COLO RECTAL CARCINOMA", presented by Charles H. Doolittle, III, MD.
APRIL 11	"ACUTE LEUKEMIAS", presented by Michael C. Wiemann, MD.
APRIL 25	"CHRONIC LEUKEMIAS", presented by Bruce T. Lyman, MD.
MAY 9	"OVARIAN CARCINOMA", presented by Ellen Spremulli, MD.
MAY 30	"MYELOPROLIFERATIVE DISORDERS", presented by Angelina Carvalho, MD.
JUNE 6	"PLASMA CELL DYSCRASIAS", presented by Zbigniew Zawadzki, MD.

MEDICAL GROUND ROUNDS LECTURE SCHEDULE

JANUARY 8	"CLINICAL ASPECTS OF CYCLIC AMP" presented by Joseph Tucci, MD, Associate Professor of Medicine, Brown University
JANUARY 15	"NEW APPROACHES TO THE TREATMENT OF DIABETES" presented by Philip Felig, MD, CNII, Long Professor and Vice Chairman, Department of Internal Medicine, Chief, Sec Endocrinology, Yale University School of Medicine
JANUARY 29	CARDIOLOGY presented by William Castelli, MD, Director, Framingham Heart Study
MARCH 11	"MECHANISMS OF ASCITES & EDEMA FORMATION AND TREATMENT OF FLUID RETENTION STATES" presented by Leroy Shear, MD, Director, Renal Section, Bay State Medical Center of Western Massachusetts
APRIL 1	"PROSTAGLANDINS" presented by Robert Zurier, MD, Associate Professor of Medicine, Division of Rheumatology, University of Connecticut
APRIL 22	"SYPHILIS UPDATE" presented by Nicholas J. Fiumara, MD, Director, Division of Communicable Diseases, Commonwealth of Massachusetts
MAY 20	"DIAGNOSIS OF HYPERTENSION: A REASSESSMENT" presented by Albert Brest, MD, Director, Division of Cardiology, Jefferson Medical College

PEDIATRIC TEACHING ROUNDS LECTURE SCHEDULE

JANUARY 11	"EVALUATION AND MANAGEMENT OF INFANTS WITH 'NEAR-MISS'" presented by Daniel C. Shannon, MD, Associate Professor of Pediatrics, Harvard Medical School, Director of Pediatric Pulmonary Research, Massachusetts General Hospital
FEBRUARY 15	"NEUROLOGIC APPROACH TO BEHAVIOR DISORDERS OF CHILDHOOD" presented by G. Robert DeLong, MD, Assistant Professor of Neurology, Harvard Medical School, Chief of Pediatric Neurology, Massachusetts General Hospital
MARCH 14	"MENINGOCOCCAL DISEASE AND PREVENTION — UPDATE". presented by Martha L. LePow, MD, Professor of Pediatrics, Director of Infectious Disease Services, Albany Medical College
APRIL 11	"'T. & A.' — 1980" presented by Charles D. Bluestone, MD, Director of Otolaryngology, Professor of Otolaryngology, University of Pittsburgh School of Medicine
MAY 16	"DIAGNOSTIC APPROACH TO HEAD INJURIES IN CHILDREN" presented by John Shillito, Jr., MD, Associate Professor of Surgery, Harvard Medical School, Senior Associate in Pediatric Neurosurgery, Children's Hospital Medical Center (Boston)

ST. JOSEPH'S HOSPITAL

CHILDREN AND YOUTH SERIES (Lecture Schedule listed below)	(1)	2nd Tuesday	8:00 pm	Stang Classroom
FAMILY PRACTICE PRESENTATIONS (Lecture Schedule listed below)	(1)	1st Tuesday	9:00 am	OLP - Stang Classroom

FAMILY PRACTICE LECTURE SCHEDULE

JANUARY 8	"MODALITIES OF DIAGNOSTIC APPARATUS AND INDICATIONS" presented by James Aiken, MD
FEBRUARY 5	"OPHTHALMOLOGY PROBLEMS AND MANAGEMENT IN FAMILY PRACTICE" presented by Joseph Migliori, MD, Division of Ophthalmology, Department of Surgery, St. Joseph Hospital
MARCH 4	"THE DIAGNOSIS AND MANAGEMENT OF ENDOMETRIOSIS" presented by Alvin Gendreau, MD, Director, Department of OB/GYN, St Joseph Hospital
APRIL 1	"THE MULTI-DISCIPLINE APPROACH TO THE RELIEF OF PAIN" presented by Toussaint Leclercq, MD, Division of Orthopedics, Department of Surgery, St Joseph Hospital
MAY 6	"THE EARLY DIAGNOSIS AND TREATMENT OF THE VARIOUS CHRONIC OBSTRUCTIVE LUNG DISEASE ENTITIES" presented by Jean Ashba, MD, Acting Chief, Pulmonary Medicine Division, Department of Medicine, St Joseph Hospital
JUNE 3	"DIFFERENTIAL DIAGNOSIS OF ABDOMINAL PAIN" presented by Ermino Cardi, MD, Department of Surgery, St Joseph Hospital

CHILDREN AND YOUTH SERIES LECTURE SCHEDULE

JANUARY 8	"PAIN EVALUATION AND TREATMENT IN CHILDREN AND TEENAGERS" presented by Toussaint A. Leclercq
FEBRUARY 12	"NEWER APPROACHES TO THE DIAGNOSIS OF DEVELOPMENTAL DISABILITIES" presented by Eric Denhoff, MD; Eileen Mullins, PhD
MARCH 11	"NEWER ADVANCES IN HEMOGLOBIN DISEASES" presented by Salvatore Allegra, MD
APRIL 8	"PSYCHOPHYSIOLOGICAL DISORDERS IN ADOLESCENCE" presented by Paul Rossman, MD
MAY 3	"ADVANCES IN BEETLING THERAPY" presented by Donald Klein, MD

DR. U. E. ZAMBARANO MEMORIAL HOSPITAL

BROWN UNIVERSITY MONTHLY EDUCATIONAL SEMINARS (Lecture Schedule listed below)	(2.5)	3rd Thursday	9:30 am - 12 noon	Medical Library
CLINICAL PATHOLOGICAL CONFERENCE		2nd Thursday of month	10:00 am	Wallum Lake House 2nd Fl Conf Rm
GENERAL GRAND ROUNDS Conducted by John J. Cunningham, MD, Associate Professor, Brown University; Murano Medical Consultant)		1st Wednesday or Thursday of month	9:30 am	Meet in Wallum Lake House
INFECTION CONTROL CONFERENCE Conducted on occasion by Fredy Roland, MD, Assistant Professor, Brown University; Epidemiologist, (Wawcket Memorial Hospital)		4th Thursday of month	1:00 pm	Wallum Lake House Conf Rm or Medical Library

BROWN UNIVERSITY MONTHLY EDUCATIONAL SEMINARS LECTURE SCHEDULE

JANUARY 17	"RHEUMATIC DISEASES", Stephen R. Kaplan, MD, Associate Professor of Medicine, Brown University, is Conference Leader.
FEBRUARY 21	"ADVANCES IN THE DIAGNOSIS AND TREATMENT OF NEOPLASIA", Paul Calabresi, MD, Professor of Medicine, Brown University, is Conference Leader.
MARCH 20	"PULMONARY DISEASES IN THE CHRONICALLY ILL", Sidney S. Braman, MD, Assistant Professor of Medicine, Brown University, is Conference Leader.
APRIL 17	"USE AND ABUSE OF ANTIBIOTICS", Georges Peter, MD, Associate Professor of Pediatrics, Brown University, is Conference Leader.
MAY 5	"ARTERIOSCLEROTIC OR CORONARY HEART DISEASE", William Boden, MD, Director, Coronary Care Unit, The Miriam Hospital, is Conference Leader.
JUNE 9	Presentation by Stanley M. Aronson, MD, Dean of Medicine, Brown University. Topic to be announced.

UNION-TRUESDALE HOSPITAL, FALL RIVER, MASSACHUSETTS

CARDIOLOGY CONFERENCE	(1)	3rd Thursday	8:00 am	Medical Library-Truesdale
HEART CONFERENCE	(1)	2nd Thursday	8:00 am	Medical Library-Truesdale
INTERESTING & PROBLEM CASES	(1)	1st Thursday (every other month)	8:00 am	Medical Library-Truesdale
GENERAL CONFERENCE	(1)	1st Thursday (every other month)	8:00 am	Medical Library-Truesdale
SATURDAY CONFERENCE	(1)	Saturday	8:00 am	Medical Library-Truesdale

For further information, contact Mrs. Ferguson, 617-674-8411, ext 356 or 378

WOONSOCKET AND FOGARTY HOSPITALS

BROWN UNIVERSITY MONTHLY SCIENTIFIC PROGRAM (Lecture Schedule listed below)	(1)	Mondays	11:30 am	Christiansen Hall
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BROWN UNIVERSITY MONTHLY SCIENTIFIC PROGRAM LECTURE SCHEDULE

FEBRUARY 25	"ADVANCES IN CARDIOLOGY" presented by David L. Kitzes, MD, Cardiologist, Clinical Assistant Professor, Brown University
APRIL 21	"METABOLIC ALTERATIONS IN RESPIRATORY DISEASES" presented by Mohammad Khan, MD, Chief, Pulmonary Medicine, Notre Dame and Woonsocket Hospitals, Medical Director of Pulmonary Diseases, Memorial Hospital, Clinical Assistant Professor of Medicine, Brown University
JUNE	"EXPERIENCES WITH CORONARY BYPASS SURGERY" presented by James J. Yashar, MD, Chief, Thoracic and Cardiovascular Surgery, Woonsocket Hospital, Clinical Instructor in Thoracic Surgery, Brown University, Chief of Peripheral Vascular Service, Roger Williams General Hospital

COURSES AND SYMPOSIA

JANUARY 8 – JUNE 19, 1980

REVIEW COURSE IN INTERNAL MEDICINE sponsored by Brown University and Rhode Island Hospital, to be held in G Auditorium, RIH, on Tuesdays from 7:00 to 9:00 pm. While a primary purpose of the course is to assist candidates preparing for certification by the American Board of Internal Medicine, the course will also benefit the internist desiring an intensive review of internal medicine. Important fundamentals and recent progress in all subspecialties will be emphasized in twenty-four successive sessions. Two credit hours per session. Fee: \$150 for practicing physicians, \$50 for physicians-in-training. For further information, call I. Owens 863-3337.

JANUARY 9, 1980

ANNUAL HEMATOLOGY SEMINAR sponsored by the Division of Clinical Hematology, RI Hospital, "Advances in Neoplasia" in George Building Auditorium, RI Hospital, from 1:00 to 5:00 pm. 5 credit hours. No registration fee. Call Dr. Albala, 277-5395, for details. Lecture schedule follows:

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| 1:00 pm | Opening remarks by Maurice M. Albala, MD, Associate Professor of Medicine, Brown University; Director, Division of Clinical Hematology, Rhode Island Hospital. |
| 1:05 pm | THE BERTHA FANGER MEMORIAL LECTURE introduced by Sumner I. Zacks, MD, Professor and Chairman, Section of Pathology, Brown University; Pathologist-in-Chief, The Miriam Hospital. |
| 1:10 pm | "THERAPEUTICS AS A TOOL OF HUMAN CANCER BIOLOGY", presented by James F. Holland, MD, Professor and Chairman, Department of Neoplastic Disease; Director, Cancer Center, Mt Sinai School of Medicine |
| 1:55 pm | "MALIGNANT LYMPHOMAS AS TUMORS OF THE IMMUNE SYSTEM – A PATHOLOGIST'S VIEW" presented by Costantino S. Berard, MD, Chief, Hematopathology Section, Laboratory of Pathology, National Cancer Institute |
| 3:15 pm | "MYELOPROLIFERATIVE SYNDROMES: POLYCYTHEMIA VERA AND MYELOID METAPLASIA" presented by David A. Rosenthal, MD, Associate Professor of Medicine, Harvard Medical School; Clinical Director of Hematology, Peter Bent Brigham Hospital |
| 4:00 pm | "THE SPECTRUM OF MONOCLONAL GAMMOPATHICS" presented by Zbigniew A. Zawadzki, MD, Associate Professor of Medicine, Brown University; Director, Division of Immunology and Oncology, The Memorial Hospital, Pawtucket, Rhode Island |

JANUARY 14, 1980

PROBLEMS OF PRIMARY CARE, lecture series sponsored by Brown University and RI Group Health Association from 5:30 - 7:00 pm in RIGHA. 1.5 credit hours per session. Lecture schedule follows:

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| JANUARY 14 | "ENT APPROACH TO THE DIZZY PATIENT" presented by S. Issenberg, MD |
| FEBRUARY 14 | "NEUROLOGIC APPROACH TO THE DIZZY PATIENT" presented by T. Morgan, MD |
| MARCH 13 | "USE AND MISUSE OF NEUROLOGICAL TESTING" presented by T. Morgan, MD |
| APRIL 14 | "OFFICE SURGICAL PROCEDURES" presented by S. Engel, MD |
| MAY 12 | "PARALEGAL ISSUES IN MEDICINE" (to be announced) |
| JUNE 9 | "RECENT ADVANCES IN RADIONUCLIDE IMAGING CARE OF THE TERMINAL CANCER PATIENT" presented by B. Borenstein, MD. |

For additional information, contact Ms. Cindy Warren, 331-3000, ext. 551.

JANUARY 16, 1980

"MENTAL HEALTH, MENTAL ILLNESS, AND RELIGIOUS BELIEF" sponsored by Brown University and the Interfaith Health Ministries. This seminar will be held at the Chateau de Ville, Warwick, RI, from 9 am - 4 pm. The goal of the symposium is to promote understanding of the role of religion in mental health and to increase cooperative efforts between mental health professionals and clergy to meet the needs of emotionally troubled individuals whether hospitalized or living in the community. 6 credit hours. Registration fee: \$20 (students \$10.00) includes lunch. Lecturers will be: Stanley Cath, MD, Professor, Tufts Medical School; Judith Krauss, RN, Associate Dean, Yale University School of Nursing; Warren Reich, STD, Professor of Bio-Ethics, Georgetown University Medical School. Moderator will be Andrew E. Slaby, MD, PhD, MPH, Chief of Psychiatry, RI Hospital; Professor of Psychiatry, Brown University. For additional information, contact Dr. Duane Parker, 277-8356.

NARY 16, 1980

col session in a series of six lectures on CONTROL OF PAIN sponsored by the Pain Program of Southern New England and the Division of Neurosurgery, St Joseph Hospital, to be held on the third Wednesday of the month from 7:30 to 9:00 pm in the Stang Classroom, Providence Unit, St Joseph Hospital. 1.5 credit hours per session. No fee. Lecture schedule follows:

- JANUARY 16 "THE PYRIFORMIS MUSCLE SPASM" presented by Robert S. Carson, MD
FEBRUARY 20 "TENS AND PAIN MANAGEMENT" presented by Stephen Lepre, RPT
MARCH 19 "DEALING WITH THE PAIN EXPERIENCE" presented by Rosalie Bolton, RN, CNRN
MAY 1 "EPIDURAL STIMULATION IN THE TREATMENT OF CHRONIC PAIN" presented by Toussaint Leclercq, MD, FACS
JUNE 8 "DIAGNOSTIC AND THERAPEUTIC BLOCKS IN THE TREATMENT OF PAIN" presented by Julius Migliori, MD

FEBRUARY 25 - MAY 19, 1980

SELECTED TOPICS IN INTERNAL MEDICINE sponsored by the Department of Continuing Education, The Memorial Hospital every Monday at 7:30 pm in Richardson I Lecture Room. One credit hour per session. Fee is \$10 per session. No fee for students or residents. Call Mrs. Judith Silva, 722-6000, ext 2246, for further information. Lecture schedule follows:

- FEBRUARY 25 "DISORDERS OF INCREASED RED CELL DESTRUCTION" presented by Jiri Palek, MD, Director Research; Director, Division of Hematology and Oncology, St. Elizabeth's Hospital; Professor of Medicine, Tufts University School of Medicine
MARCH 3 "THROMBO EMBOLIC DISEASE" presented by Victor Gurewich, MD, Director Vascular Lab, St. Elizabeth's Hospital; Associate Professor of Medicine, Tufts University School of Medicine
MARCH 10 "ANEMIA IN OFFICE PRACTICE" presented by Herbert Lichtman, MD, Chairman, Dept of Medicine, Miriam Hospital; Professor of Medical Science, Brown University
MARCH 17 "WORKSHOP ON BLOOD DISEASES" presented by Mario G. Baldini, MD, Chairman, Dept. of Medicine; Director Division of Hematologic Research, The Memorial Hospital; Professor of Medical Science, Brown University
MARCH 24 "USE OF BLOOD AND BLOOD COMPONENTS" presented by Ronald Yankee, MD, Medical Director of RI Blood Center; Professor of Medicine, Brown University
MARCH 31 "PRESENT PROGRESS IN THE THERAPY OF KIDNEY DISEASE" presented by Jordan Cohen, MD, Chief, Renal Service, New England Medical Center Hospital; Professor of Medicine, Tufts University School of Medicine
APRIL 7 "WORKSHOP ON FLUID, ELECTROLYTES AND ACID BASE PROBLEM CASES" presented by Joseph Chazan, MD, Medical Director, Kidney Center; Clinical Associate Professor of Medicine, Brown University; Director of Division of Renal Diseases, Memorial Hospital
APRIL 14 "ADVANCES IN DIALYSIS AND TRANSPLANTATION" presented by John Harrington, MD, Director, Hemo-Dialysis Unit, New England Medical Center Hospital; Professor of Medicine, Tufts University
APRIL 21 "TREATMENT OF HYPERTENSION" presented by Nicholaos Madias, MD, Director, Hypertension Clinic, New England Medical Center Hospital; Assistant Professor of Medicine, Tufts University School of Medicine
APRIL 28 "ADVANCES IN CLINICAL DIABETES" presented by Ronald Arky, MD, Chief of Medicine, Mt. Auburn Hospital; Professor of Medicine, Harvard Medical School
MAY 1 "MANAGEMENT OF HYPERLIPIDEMIA" presented by Peter Herbert, MD, Director, Division Clinical and Experimental Atherosclerosis, Miriam Hospital; Associate Professor of Medicine, Brown University
MAY "TREATMENT OF GOITER & THYROID NODULES" presented by Carl Cassidy, MD, Clinical Professor of Medicine, Tufts University School of Medicine; Program Director, Post Graduate Medical Institute, Boston
MAY "USE OF THE CORTICOSTEROIDS" presented by James Melby, MD, Head, Section of Endocrinology & Metabolism, University Hospital; Professor of Medicine, Boston University Medical Center, Boston

FEBRUARY 29 and MARCH 1, 1980

ADVANCED CARDIAC LIFE SUPPORT COURSE sponsored by RI Hospital in conjunction with the American Heart Association on Friday, February 29 from 1:00 to 5:00 pm and on Saturday, March 1 from 8:30 am to 4:00 pm in the Nursing Arts Bldg. RI Hospital. Program Director is Steven A. Wartman, MD, Associate Physician-in-Chief, Medical Emergency and Primary Care Services. Approximately 11 credit hours. Registration fee will be charged. Please note: enrollment is limited to RI Hospital full-time faculty, attending staff house officers, and critical care nurses. Call Ms. Ida Ryder, 277-5015, for further information.

MARCH 14 and 15, 1980

ADVANCED CARDIAC LIFE SUPPORT PROGRAM sponsored by the RI Affiliate, American Heart Association and Medical Staff Association, St. Joseph Hospital on Friday, March 14, 1980 from 7:00 - 10:00 pm and on Saturday, March 15, 1980 from 8:00 am - 1:00 pm. To be held in Classrooms I and II, lower level, Marian Hall, Our Lady of Fatima Unit, St Joseph Hospital. Program Director is Irving F. Gilson, MD, Director of Medicine and Chairman of the Advanced Life Support Committee, St Joseph Hospital; Clinical Instructor of Medicine, Brown University. 12 credit hours. Registration fee is \$100. Please note: Enrollment in this course is limited. Priority is given to members of the Medical Staff of St Joseph Hospital; to other physicians as space permits. Pre-course materials sent to each registrant in advance of program. Early enrollment is therefore essential. Call Mary C. McHugh, 456-3065, for further information.

MAY 3, 1980

THIRD ANNUAL POSTGRADUATE COURSE, "CURRENT CONTROVERSIES IN SURGERY", sponsored by Brown University and the Department of Surgery, The Miriam Hospital in the Barus-Holley building on the Brown University campus from 8:00 am to 4:15 pm. The aim of this symposium is to present the views of experts in four controversial areas of patient management in adult medicine and surgery. Credit hours. Registration fee \$40.00. For further details, contact Dr. McEnany, 421-2122. Brown faculty will include:

Richard Carleton, MD, Professor of Medicine; Chief of Cardiology Division, The Memorial Hospital;
Martin Felder, MD, Clinical Associate Professor of Surgery; Director, Division of General Surgery, The Miriam Hospital;
Michael Friedland, MD, Assistant Professor of Medicine and Community Health; Associate Physician-in-Chief, The Miriam Hospital;
Arnold Herman, MD, Clinical Assistant Professor of Surgery; Associate Surgeon, The Miriam Hospital;
M. Terry McEnany, MD, Professor of Surgery; Surgeon-in-Chief, The Miriam Hospital;
Richard Shulman, MD, Associate Professor of Medicine; Director, Division of Cardiology, The Miriam Hospital;
Leonard Friedman, MD, Clinical Assistant Professor of Surgery; Surgeon, The Miriam Hospital;
Banice Webber, MD, Associate Professor of Radiation Medicine.

Guest Speakers will include:

Oliver Cope, MD, Professor of Surgery Emeritus, Massachusetts General Hospital, Harvard Medical School;
Marvin Corman, MD, Lahey Clinic, Boston, Massachusetts;
Peter Deckers, MD, Associate Professor of Surgery, University Hospital, Boston University;
Claude Welch, MD, Professor of Surgery, Massachusetts General Hospital.

JUNE 9 - JUNE 11, 1980

FRONTIERS IN CORONARY ARTERY DISEASE sponsored by the American College of Cardiology and Brown University to be held at the Sheraton Islander, Newport, RI. Registration at 8:00 am on Monday, June 9. The course will include lectures and panel discussions on the following topics: Coronary Artery Surgery, Secondary Prevention of Myocardial Infarction, Clinical Case Discussions by the Experts in Nuclear Techniques in Coronary Artery Disease. Brown faculty will include:

Ian Benham, MD, Director, Coronary Care Unit, Miriam Hospital; Assistant Professor of Medicine;
William Bowden, MD, Director, Cardiovascular Laboratory, Miriam Hospital; Assistant Professor of Medicine;
Edward Bough, MD, Associate Director of Cardiology, Miriam Hospital; Assistant Professor of Medicine;
Robert Capone, MD, Director of Coronary Care, Rhode Island Hospital; Assistant Professor of Medicine;
Richard Carleton, MD, Chief, Cardiology, Memorial Hospital; Professor of Medicine;
Henry Gewirtz, MD, Director, Non-Invasive Cardiology, Rhode Island Hospital; Assistant Professor of Medicine;
Peter Herbert, MD, Director, Division of Clinical and Experimental Atherosclerosis, Miriam Hospital; Associate Professor of Medicine;
Karl E. Karlson, MD, Ph.D., Surgeon-in-Charge, Division of Cardiothoracic Surgery, Rhode Island Hospital; Professor of Biomedical Science;
Abdul Khan, MD, Medical Director, Intensive Care Unit and Coronary Care Unit, Memorial Hospital; Assistant Professor of Medicine;
M. Terry McEnany, MD, Surgeon-in-Chief, Miriam Hospital; Professor of Surgery;
Albert Most, MD, Physician-in-Charge, Division of Cardiology, Rhode Island Hospital; Associate Professor of Medicine;
Richard Shulman, MD, Director of Cardiology, Miriam Hospital; Associate Professor of Medicine;
Paul Thompson, MD, Director, Non-Invasive Laboratory, Memorial Hospital; Assistant Professor of Medicine;
David Williams, MD, Director, Cardiovascular Laboratory, Rhode Island Hospital; Assistant Professor of Medicine.

Guest speakers will include:

C. Richard Conti, MD, Chief of Cardiology; Professor of Medicine, University of Florida;
Howard Hartley, MD, Director, Exercise Laboratory, Beth Israel Hospital, Harvard University;
Robert Levy, MD, Director, National Heart, Blood and Lung Institute;
Henry McIntosh, MD, Lakeland, Florida;
H. William Strauss, MD, Director, Nuclear Medicine, Massachusetts General Hospital; Associate Professor of Medicine, Harvard University;
Andrew Wallace, MD, Chief, Cardiology, Duke University Medical School.

15 credit hours. Fee: \$180 for members of College, \$210 for non-members; house staff and medical students admitted free of charge. R.J. Capone, MD, 277-5891, for further information.

JUNE 16 to JUNE 20, 1980

MKSAP V (MEDICAL KNOWLEDGE SELF-ASSESSMENT PROGRAM) sponsored by the American College of Physicians in conjunction with the combined faculties of Brown University, U Conn., and Yale at the Sheraton Islander Inn, Newport, RI from 9:00 am to 4:30 pm each day. 30 credit hours. Contact Dr. Joseph DiMase, ACP Governor for RI, at 272-4310 for further information.

DATES TO REMEMBER — MEETINGS TO ATTEND

The following are combined medical-pediatric-surgical conferences sponsored by the Rhode Island Hospital House Officers' Association:

- JANUARY 9 "Pneumoconiosis — Pathological Mechanisms" presented by Joel M. Seidman, MD, Associate Professor of Medicine and Physiology, U Mass Medical School, George Auditorium, RIH, 12:00 noon
- JANUARY 12 "Management of Skin Cancer" presented by Perry Robins, MD, Associate Professor of Dermatology, New York University Medical Center, George Auditorium, RIH, 10:00 am
- JANUARY 23 "Pitfalls of Anticoagulant Therapy" presented by Peter Levine, MD, Professor of Medicine, University of Massachusetts Medical School, George Auditorium, RIH, 12 noon
- JANUARY 26 "Management of Lower Extremity Ischemia" presented by Victor M. Bernhard, MD, Professor of Surgery, The Medical College of Wisconsin, George Auditorium, RIH, 10:00 am
- FEBRUARY 16 "Therapy of Adult Acute Myeloid Leukemia: Correlation with Morphologic Sub Types" presented by John M. Bennett, MD, Professor of Oncology in Medicine, The University of Rochester School of Medicine, George Auditorium, RIH, 10:00 am
- MARCH 1 "Management of Difficult Problems of the Biliary Tract" presented by George D. Zuidema, MD, Warfield M. Firor Professor and Director, The Johns Hopkins University School of Medicine, George Auditorium, RIH, 10:00 am
- MARCH 12 "Chronic Obstructive Pulmonary Disease — An Update" presented by Gordon L. Snider, MD, Chief Pulmonary Medicine Section, Boston University School of Medicine, George Auditorium, RIH, 12:00 noon
- MARCH 19 Topic to be announced. Lecturer will be Sheldon Kaufman, MD, Chief of Oncology, Massachusetts General Hospital, George Auditorium, RIH, 12:00 noon
- MARCH 21 Topic to be announced. Lecturer will be Kenneth MacIntosh, MD, Chief, Clinical Infectious Diseases, Childrens Hospital Medical Center, George Auditorium, RIH, 10:30 am to 12:00 noon
- MARCH 28 Topic to be announced. Lecturer will be J. Scott Dunbar, MD, Director of the Division of Roentgenology, Childrens Hospital Medical Center, George Auditorium, RIH, 10:30 am to noon
- APRIL 9 "Alcohol and the Liver" presented by Harris Clearfield, MD, Professor of Medicine, Hahnemann Medical College and Hospital of Philadelphia, George Auditorium, RIH, 12:00 Noon
- MAY "Adolescent Depression and Suicide" presented by John E. Schowalter, MD, Professor of Pediatrics and Psychiatry, Yale University Child Study Center, George Auditorium, RIH, 10:30 am to 12:00 Noon
- MAY "Portal Hypertension" presented by Robert Zeppa, MD, Professor and Chairman, University of Miami School of Medicine, George Auditorium, RIH, 10:00 am
- MAY Topic to be announced. Lecturer will be Herbert Levine, MD, Professor of Medicine, New England Medical Center Hospital, George Auditorium, RIH, 12:00 Noon
- MAY "Head Injuries in Childhood — The Role of the Pediatrician" presented by M. Paul Rosman, MD, Professor of Pediatrics and Neurology, Boston University School of Medicine, George Auditorium, RIH, 10:30 am to 12:00 Noon

For further information, contact Ms. Ida Ryder, 277-5015.

JANUARY 10, 1980

MEMORIAL LECTURE presented by C. Rollins Hanlon, MD, Director, American College of Surgeons, Sopkin Auditorium, The Miriam Hospital at 8:00 pm. 1.5 credit hours.

JANUARY 15, 1980

"PULMONARY FUNCTIONS TESTING" presented by Jean K. Ashba, MD, Physician-in-charge, Respiratory Unit, General Hospital, RIMC. Clinical Assistant Professor of Medicine, Brown University, at 10:30 am in the Lab Classroom at the General Hospital, RIMC. Moderator is Samuel Hassid, MD. One credit hour. No fee.

JANUARY 17, 1980

"DISCUSSION OF PROBLEMS OF OSTOMIES" sponsored by the Ostomy Rehabilitation Center and Dept of Surgery, St Joseph Hospital and presented by Hernando Martinez, MD, Dept of Surgery, St Joseph Hospital and Susan Stuart, RN, ET, Ostomy Rehabilitation Center, The Miriam Hospital. Stang Classroom, Providence Unit, St Joseph Hospital at 8:00 pm. 1.5 credit hours. No fee.

JANUARY 22, 1980

"DIABETIC AMYOTROPHY" presented by Sumner I. Zacks, MD, Pathologist-in-Chief, The Miriam Hospital; Professor and Chairman, Dept of Pathology, Brown University, at 10:30 am in the Lab Classroom at the General Hospital, RIMC. Moderator is Samuel Hassid, MD. One credit hour. No fee.

FEBRUARY 12, 1980

PROVIDENCE RENAL ROUNDS, presentation of instructive cases, sponsored by the Division of Renal Diseases, RI Hospital, at 8:30 am in APC 155, RI Hospital. One credit hour. Contact Dr. Abuelo, 277-5445, for further details.

MARCH 12, 1980

"PHYSICIANS AND SOCIAL WORKERS IN A HOSPITAL SETTING" presented by Frederick Young, ACSW, Chief of Social Services, General Hospital, RIMC, at 10:30 am in the Lab Classroom at the General Hospital, RIMC. Moderator is Samuel Hassid, MD. One credit hour.

APRIL 1, 1980

"PROSTAGLANDINS AND EXPERIMENTAL MODELS OF INFLAMMATION" presented by Robert Zurier, MD, Associate Professor of Medicine, Division of Rheumatology, U Conn, Greene Lounge, Roger Williams General Hospital, 9:30 am. 1.5 credit hours.

APRIL 3, 1980

"REFLEX SYMPATHETIC DYSTROPHY" presented by Franklin Kozin, MD, Associate Professor of Medicine, Division of Rheumatology, Medical College of Wisconsin, Greene Lounge, Roger Williams General Hospital, 9:30 am. 1.5 credit hours.

APRIL 30, 1980

"REFLEX SYMPATHETIC DYSTROPHY" presented by Franklin Kozin, MD, Associate Professor of Medicine, Medical College of Wisconsin, Stang Classroom — Providence Unit, St Joseph Hospital. One credit hour. No fee.

MAY 3, 1980

WILLIAM P. BUFFUM ORATION, "IMMUNO DEFICIENCY DISORDERS" presented by Rebecca H. Buckley, MD, Professor of Pediatrics, Duke University Medical Center, President, American Academy of Allergy, at 10:00 am in George Auditorium, RIH. 3.0 credit hours. No fee. Call Dr. Klein, 421-1232, for further information.

MEETINGS BEING PLANNED

MONTHLY GUEST LECTURER AT THE GENERAL HOSPITAL, RIMC, for the month of January will be John Urbanetti, D. Sc., Assistant Professor, Tufts University Medical School; Assistant Chief, Pulmonary Section, Northeastern Medical Center. Call Dr. H. Klein, 464-3493, for exact date and time.

KENNEY DAY at the Memorial Hospital consisting of abstracts presented by attendings, house officers, and research department members. Wednesday, February 13, 1980. Call Mrs. Judith Silva, 722-6000, ext 2246, for further information.

DR. RALPH DILEONE MEMORIAL LECTURE sponsored annually by RI Hospital and Women and Infants Hospital will be held this year in March in George Auditorium, RI Hospital. Presenter will be Saul Gusberg, MD, President, American Cancer Society. One credit hour. For further details, contact Dr. Louis Leone, 277-5391.

RHODE ISLAND CHAPTER, AMERICAN COLLEGE OF PHYSICIANS, ANNUAL MEETING, Wednesday, March 19, 1980 at the Rhode Island Hotel, N Aft in Warren. For further information, call Ms. C. Almonte, 277-5015.

CHIEF PRO TEM MEDICINE sponsored by the Department of Medicine, RI Hospital on April 10, 11, and 12, 1980 in George Auditorium, RI Hospital. Presenter will be Richard Gorlin, MD. For further details, contact Dept. of Medicine, 277-5677.

NEW ENGLAND DERMATOLOGICAL SOCIETY meeting on April 24, 1980, RI Hospital, APC Building, 5th floor. Contact Dr. McDonald, 456-2060, for further information.

FALL MEETING, OTOLARYNGOLOGICAL SOCIETY, on Wednesday, November 5, 1980, in George Auditorium, RI Hospital, 9:00 am to 5:00 pm. For further details, contact Dr. Mary Lekas, 751-1616.

DEPARTMENT OF OPHTHALMOLOGY, RI HOSPITAL, sponsors monthly lectures by visiting professors. One credit hour per lecture. Contact Dr. Kinder, 277-4922, for details.

CRISIS INTERVENTION: METHODS AND MANAGEMENT sponsored by the Department of Psychiatry, RI Hospital and Brown University. This course is now in progress on Thursdays from 7:30 — 9:00 pm in APC 155, RI Hospital and will conclude on January 4, 1980, at which time it will be rescheduled. Call Dr. Slaby, 277-5488, for schedule of next course.



Rhode Island Medical Society

SPECIAL REPORT

Evaluation by A. D. Little, Inc. of the Proposed State Health System Plan

Six months ago we published in this space a Special Report on the Preliminary Draft of the State Health System Plan, which was then gradually evolving from the deliberations of the Statewide Health Coordinating Council (SHCC). Since then members of the community of health care providers in Rhode Island have increasingly taken an interest in investigating philosophical and statistical assumptions of the State Health System Plan and discovered several areas of disagreement with it.

In July 1979 a Voluntary Committee of Health Providers was formed by the Rhode Island Medical Society, the Rhode Island Society of Osteopathic Physicians and Surgeons, the Association of Presidents of Hospital Medical Staffs, and the Hospital Association of Rhode Island. In November 1979 Arthur D. Little, Inc. was retained by this Voluntary Committee and given three specific consulting charges: (1) to evaluate the draft State Health System Plan prior to its public review during January 1980; (2) to perform additional studies pertinent to the development of plans for the health delivery system in Rhode Island; (3) to help the Voluntary Committee respond proactively to changing health service needs in Rhode Island.

A.D. Little's evaluation contains in-depth analysis of the State Health Plan in terms of its population projection and its proposals concerning short-stay hospital beds, health manpower, districting and related issues, and hospital financing. It also contains a summary of findings and general comments reprinted below.

Public hearings on the State Health System Plan will be held around the state in January. A schedule of dates and locations is in the Newsletter of this issue. Plan to attend the hearing in your county.

Arthur D. Little, Inc. was asked to conduct an independent evaluation of the draft proposal for a Rhode Island State Health System Plan. After careful review, we endorse the fundamental goals stated in the Plan and agree with many of the recommendations concerning health status. However, we disagree with a number of health service recommendations in the draft Plan. In our opinion, these specific proposals could damage the health service system in Rhode Island.

We believe in the need for health planning and the importance of developing an appropriate Health System Plan for the State. Accordingly, our purpose in this evaluation is not to criticize the current draft, but to propose modifications for its improvement. Modifications are presented concerning: population projections; hospital bed needs; health manpower requirements; districting; and hospital financing.

A. Population Projections

Health planning requires quantification of the future population. Such projections are only statistical estimates which are subject to methodologic bias and a predictable range of probable error (variability). The draft Plan utilizes population projections developed by the Rhode Island Department of Health in 1977 specifically for the Health System Plan. More recent estimates by the Rhode Island State Planning Program (RISPP), revised in April, 1979, project a considerably larger population for Rhode Island. RISPP is the designated state agency for Federal-State Cooperative estimates with the U.S. Bureau of the Census. RISPP population estimates are more consistent with recent revisions by the U.S. Bureau of the Census and RISPP estimates for persons over 65 are more consistent with recent counts of Medicare eligibles in Rhode Island.

Accordingly, we recommend that RISPP revised projections be used to update the draft Plan and that even these be accepted with a range of uncertainty of $\pm 7\%$.

B. Short-Stay Hospital Beds

Despite the greater health service needs of an older population, in 1975 Rhode Island had only 84% as many community hospital beds per 1,000 population as did the United States and utilized only 92% as many days of hospital care per 1,000 population. Occupancy in Rhode Island community hospitals was 10% greater than in the United States. Average length of stay was reduced more in Rhode Island than in the United States between 1973 and 1978. Over these same years, hospital admissions rose less in Rhode Island than in the United States, and both days of care and hospital beds actually fell in Rhode Island while rising in the United States.

(1) Utilization Targets

Nevertheless, the draft Plan recommends a large reduction in community hospital beds based on an interim target of 1,000 days of hospital care per 1,000 projected population whether provided in community or federal hospitals. This target was chosen by reviewing national HMO utilization rates. However, extrapolations of Rhode Island HMO enrollment from 1971 through 1976 show that only 3.1% to 5.6% of the State population will utilize HMOs by 1985. The potential reduction in hospital utilization rates which would result is minute (7.6 to 22.6 days per 1,000 population).

Utilization targets of 1,000 days per 1,000 population for the United States are frequently discussed in health planning groups. These rate targets apply to the relatively young population of the United States and to care provided only in community hospitals. The draft Plan proposes a similar rate for the older population of Rhode Island. Furthermore, the draft Plan proposes that this rate apply to the utilization of federal as well as community hospitals in the State. The stringent impact of this approach is demonstrated by applying the proposed utilization standards to the population of the United States during 1975. The proposed Rhode Island standards would have reduced utilization of both federal and non-federal hospitals in the entire country by 32%; they would have reduced national utilization of community hospitals alone by 24%.

We believe that utilization rate reductions of this magnitude are an unrealistic expectation and therefore an inordinately strict standard. These standards would require a reduction in utilization of more than 250 to 350 days per 1,000 population while the projected impact of increased HMO enrollment would reduce utilization rates by only 7.6 to 22.6 days per 1,000. In effect, these inordinately strict utilization standards would cause rationing of hospitals' services by queuing, with two calamitous consequences for Rhode Island. Those with financial resources would go out of State at a cost of personal inconvenience and resulting in loss of jobs and income for Rhode Island. Those with restricted financial means, namely the poor and elderly, would have their health needs delayed or denied. Queuing is a regressive step which negates the gains made in the distribution of health services over the past 15 years and is in conflict with the fundamental health service goals expressed in the draft Plan.

Hospital service and age group specific utilization standards, already implemented in Massachusetts, provide for 1,000 days of care per 1,000 population age adjusted to the United States, in 1975. The Massachusetts standards apply to the utilization only of community (non-federal) hospitals. We compared the impact of these standards on Rhode Island in 1985 with logarithmic projections of declining demand in Rhode Island for hospital service. It became evident that the self-imposed restraint of the voluntary hospital system in Rhode Island is likely to reduce hospital utilization to levels lower than the very reasonable Massachusetts standards.

Accordingly, we recommend that the draft Plan be rewritten to make use of the Massachusetts hospital service and age group specific utilization standards which provide for 1,000 days of hospital care per 1,000 1975 United States population. Furthermore, we recommend that these standards apply only to the utilization of community hospitals as they do elsewhere in the country.

(2) Required Occupancy

Projected bed needs also depend upon required hospital occupancy. We believe that an overall State occupancy of 88% as recommended in the draft Plan is too high. As with the strict utilization rates, excessive occupancy requirements would promote queuing and unregulated rationing of hospital service. Federal planners recommend an overall occupancy requirement of 80%; however, most urban planners recommend an overall occupancy of 85%. In fact, modified occupancy requirements resulting in an overall rate of 85% were included in the April 12, 1979, revision of the draft Plan section dealing with the Distribution of Short-Stay Hospital Beds (which has since been deleted from the Plan).

We recommend these occupancy standards, which include: 86.9% on medical-surgical and psychiatric services; 73% on most pediatric and obstetric services; and 60% on pediatric and obstetric services in the geographically isolated Newport area.

(3) Bed Needs

Bed needs for 1985 were determined from the recommended Massachusetts utilization standards and the occupancy requirements recommended above and compared with all short-stay community hospital beds which will be available in Rhode Island. There will be a slight deficit of medical-surgical and psychiatric beds (totalling 84) and an excess of pediatric and obstetric beds (totalling 175) with a net excess of 91 beds. However, the apparent ability of the volun-

tary hospital system to perform even better than the proposed Massachusetts standards makes a bed deficit on medical-surgical and psychiatric services unlikely. The remaining problem is the residual bed excess on pediatric and obstetric services.

We recommend that the draft Plan be modified to charge the voluntary hospital system with considering cost-effective ways to eliminate 100+ pediatric beds and approximately 60 obstetric beds with careful consideration of the impact of such reductions on access to care, particularly in geographically isolated areas.

C. Health Manpower

The draft Plan concluded that there will be an excess of physician and nursing manpower in Rhode Island by 1983. Manpower supplies were developed by linear extrapolation of 1970-1974 data through the 1980's. It is particularly hazardous since the base years included a one-time expansion of manpower to provide faculty and residents at the Brown University School of Medicine. Furthermore, 1970-1974 followed federal efforts to stimulate the development of health manpower; a policy which has since been reversed at the federal level. Manpower requirements were determined from estimated patient visits to physicians, as applied to the understated population projections, and physician productivity from Rhode Island and national HMO data. The process used to project manpower requirements is subject to substantial error.

(1) Physician Manpower

Accordingly, we estimated the availability of physician manpower in Rhode Island by comparison with the United States and other Northeastern states in 1976. The raw data showed Rhode Island to have 15% more physicians than the United States but considerably less than its neighboring states. When the data were adjusted for the greater medical needs of its older population, Rhode Island had only 8% more physicians than the United States. Finally, after adjustment for the density of the population (since physicians are more prevalent in urban settings), Rhode Island had fewer physicians per 1,000 population than the United States or any other Northeastern state, except Maine. The data demonstrate that there is no excess of physicians in Rhode Island.

(2) Nursing Manpower

Similar comparisons of institutionally employed nurses per 1,000 beds in both

long- and short-term hospitals were made between Rhode Island, the United States, and other Northeastern states. The number of nurses per 1,000 hospital beds was lower in Rhode Island than in the United States or any other Northeastern state. The number of nurses employed in other institutional settings was similarly low in Rhode Island.

3) Hospital Based Specialists

Finally, we were concerned by the proposal to require all hospital-based Anesthesiologists, Pathologists, and Radiologists to become salaried employees by 1983. Without arguing the merits of the proposal, this is a step that cannot be taken unilaterally in Rhode Island without driving high quality hospital-based physicians out of the State.

In consequence of these considerations, we recommend that the following sections be deleted from the draft Plan. In our opinion, they are misleading, do not add to the proposed Plan, or include recommendations which would be damaging to the State.

Goals

- Potent Visits to Ambulatory Care Providers
- Provider Care Capacity for Patients Age 0-14

Strategies

- Total Physician Requirements
- Primary Care Physician Requirements
- Surgeon Requirements
- Specialty Support Physician Requirements
- Registered Nurse Requirements

Tactics

- Salary Hospital-Based Specialty Support Physicians
- Reduce the Number of Basic Registered Nurse Educational Programs

D. Districting and Related Issues

(1) Primary and Secondary Districts

The draft Plan proposes 18 Primary Service Planning areas meant as a basis to monitor the availability of primary care services. The underlying supposition is that primary care services should be near the residence of the recipient. However, the large number of districts creates artificial markets and unreasonable regulatory requirements. For example, Lincoln and Cumberland comprise Primary Service Planning Area Number 3, yet, no one in either town is more than five miles from Woonsocket or Pawtucket. There is no logical reason to be concerned with pri-

mary care resources in Lincoln or Cumberland providing that they are available in Woonsocket or Pawtucket.

Similarly, four Secondary Service Planning areas were developed to monitor and manage general hospital services on the underlying assumption that the hospitals and population in each area are related. However, a significant percentage of hospitalized patients from the Northern and Southern areas, particularly those resident nearer to Providence, seek services from hospitals within the Central area. Furthermore, Little Compton and Fiverton primarily depend upon hospital resources in nearby Fall River or New Bedford.

We do not believe that these Primary or Secondary districts serve their intended purpose. Actually, Rhode Island consists of a dense metropolitan circle around Providence plus a small number of other areas which exist in relative geographic isolation. The districting scheme included in the draft Plan tends to obscure the real problems of the geographically isolated areas, namely to provide necessary service on a convenient basis for relatively small populations.

Consequently, we recommend that additional studies be conducted to develop new Primary and Secondary districts with greater market validity before they are used to monitor or manage either primary or secondary levels of health service.

(2) Primary Care Physician Distribution

The draft Plan proposes that the spatial ratio for primary care physicians in each Primary area approach a minimum of 0.85 by 1983. This ratio relates primary care physicians to population in each area. General practitioners, family practitioners, internists, pediatricians, and obstetrician-gynecologists are considered as primary care physicians. Unfortunately, this methodology allocates subspecializing internists, pediatricians, and gynecologists in Providence to primary care even though they do not provide primary care. In consequence, the spatial ratios in Providence is artificially inflated and those in the less dense areas are artificially depressed. Furthermore, the method does not account for a considerable volume of primary care provided by surgeons in less densely populated areas.

We recommend that the strategy dealing with Primary Care Physician Spatial Distribution be rewritten to recommend a minimal target for primary care manpower per 1,000 population with special emphasis on those districts where there is relative geographic isolation.

(3) Provider Consortia

The draft Plan calls for provider consortia within each Secondary Planning area to formalize the network designed to coordinate care.

We recommend that such consortia be based on more valid districting concepts. We also recommend that local consortia complement and not conflict with statewide efforts where the latter exist and are perhaps more appropriate and that explicit formalization not damage existing and productive informal networks.

(4) Health Service Boards

The draft Plan provides for the development of Health Service Boards in each Secondary Planning Area which would have the function of Health Systems Agencies. Given the small size of Rhode Island, we regard this as a needless and unproductive layering of responsibility.

We recommend that this tactic be deleted from the Plan.

(5) Minimum Size Standards

Finally, we are concerned with the Minimum Efficient Size standards. We are familiar with many high quality, efficient hospitals under 250 beds. Requirements for large pediatric and obstetric services are inconsistent with providing access in areas of relative geographic isolation. Formalization of such size regulations invites misapplication and discourages the individual judgment required in each unique case.

We recommend that this tactic be reworded so as to be more consistent with its intent. We suggest, "Freestanding hospitals and individual services within hospitals should be of sufficient size to assure quality and cost-efficiency consistent with the need to provide reasonable access to care for persons resident in geographically isolated areas."

E. Hospital Financing

Rhode Island community hospital expenditures from 1973 to 1978 rose less rapidly than those in the United States. The State's relative ability to control health care inflation is the result of cooperation between the public and private sectors. Based on such cooperation, Rhode Island has developed effective Rate Setting and Certificate-of-Need programs which often serve as models for other sections of the nation. Furthermore, a vigorous voluntary effort for health care cost containment has been further stimulated by a recent Governor's Conference. Cooperative voluntary efforts have shown their value

in Rhode Island and continue to promise further benefit.

(1) Expenditure Caps

We strongly disagree with the goal which calls for a 3% reduction per annum in hospital expenditures, after adjustment for inflation. Current PSRO and Prospective Rate Setting activities in Rhode Island are aimed at, and reduce, unnecessary hospital utilization and inefficient hospital management. These cost-containing activities should continue; however, there is no way to project the magnitude of their impact. A 3% reduction per annum, in real dollars, assumes that almost 15% of hospital expenditures are unnecessary and can be eliminated over five years without hazard to the population.

We believe that this proposal in the Plan reflects an unwarranted bias against curative personal health services. It is worth noting that the mortality rate for persons over 65 in Rhode Island fell from 6,081 to 5,380 per 100,000 between 1970 and 1975. It is unlikely that lifestyle changes or environmental factors had any major unique impact on this age cohort. It is far more likely that this highly significant reduction in mortality is the result of advancing medical technology and greater access to hospital care. We are reluctant to put a price tag on over 600 lives per year. Furthermore, this fall in mortality is only the tip of the iceberg representing health service benefit.

Alternately, the draft proposal recommends that the 3% reduction in real dollar hospital expenditures be reallocated to lifestyle interventions, environmental intervention, and alternative forms of care. Many of the alternative forms of care, such as ambulatory surgery, outpatient care, day care, and home care are provided or supported

by hospitals who would be hard pressed to continue these efforts in the face of major budgetary restrictions.

We believe that the recommended reallocation of hospital expenditures reflects another unwarranted assumption in the draft Plan, namely, that lifestyle interventions will reduce subsequent requirements for hospital expenditure. There is evidence that intensive (and expensive) personal health education can change behavior in the short run. The evidence for long-term impact on health status has not yet been presented. More importantly, there is no evidence that such behavioral change reduces health service utilization or expenditure. We do not object to appropriate lifestyle interventions. In fact, we believe they may increase the quality of life and its longevity. However, investment in these programs should be made independently based on the value perceived and the demonstrated effectiveness of the program; not at the expense of other socially valued services. To quote an axiom, "each tub should float on its own bottom."

For these reasons, we recommend deletion of the target statement under Productivity of Health Expenditures calling for a 3% reduction per annum of real dollar hospital expenditures with reallocation to lifestyle intervention, environmental intervention, and alternative forms of care.

(2) Statewide Hospital Capital Development Fund

We believe that a Statewide Hospital Capital Development Fund, as proposed in the draft Plan, would create a de facto single hospital in the State of Rhode Island. Such a monopoly would eliminate competition and any contribution of competition to cost containment, innovation, and the quality of care. Such

a monopoly would put all Rhode Island eggs in one basket, so to speak, subject to the skill and wisdom of a single management.

The central Capital Fund would be managed by bureaucrats not directly accountable to the public and subject to potential pressure or personal prejudice. Hospitals might be required to exhaust their endowment before receiving necessary capital, which would negate the intent of prior gifts and discourage future contributions to hospital endowment. Finally, central management of the Capital Fund could close hospitals without due process. Failure to provide capital for renovations to meet stringent Life Safety Codes would lead to loss of accreditation, loss of Medicare-Medicaid reimbursement, and an inability to continue hospital operations.

We think these consequences are unacceptable in our society and therefore recommend deletion of the Statewide Hospital Capital Development Fund from the draft Plan.

(3) "Capital Caps"

Finally, the draft Plan calls for "Capital Caps" not to exceed \$10 million statewide in any one year. We believe this proposal is in conflict with existing health planning regulation. Certificate of need restrains unnecessary capital expenditures while permitting appropriate expenditures as defined by human needs. Since Rhode Islanders are presumably willing to invest capital in those health service activities found to be necessary, we believe that the CON program is far preferable to the proposed "Capital Caps."

Accordingly, we recommend deletion of this tactic from the draft Plan.

The various recommendations for modification of the draft State Health Plan, developed as a result of our independent evaluation, are brought together in the following table.

RECOMMENDED MODIFICATION OF THE DRAFT RHODE ISLAND STATE HEALTH SYSTEM PLAN

AREA OF CONCERN	DELETIONS	ALTERATIONS	FURTHER STUDY OR ACTION
Population Projections		Utilize Rhode Island State Planning Program, pop. projections, revised April 1979 for a revision of the draft.	
Short-Stay Hospital Beds		<p>Use Utilization Standard of 1,000 days per 1,000 population age adjusted to US, 1975 (ie, Massachusetts hospital service age group specific standards).</p> <p>Apply standard only to the utilization of community hospitals.</p> <p>Statewide occupancy requirement of 85% (ie, 86.9% for M/S and Psych, 73% for most OB and Ped, 60% for OB and Ped in Newport).</p>	Development of plan to reduce pediatric beds by 110+ and obstetric beds by approximately 60. Plan to be developed voluntarily by provider community.
Health Manpower	<p>Patient visits to ambulatory care providers.</p> <p>Provider care capacity for patients age 0-14.</p> <p>Total physician requirements</p> <p>Primary care physician requirements</p> <p>Surgeon requirements</p> <p>Specialty support physician requirements</p> <p>Registered Nurse requirements</p> <p>Salary hospital-based specialty support physicians</p> <p>Reduce number of basic Registered Nurse educational programs</p>		
Districting and Related Issues	Health Service Boards	<p>Rewrite Primary Care Spatial Distribution in terms of minimal manpower requirement per 1,000 population with emphasis on geographically isolated areas.</p> <p>Local consortia not to conflict with statewide consortia or to damage existing informal networks.</p> <p>Modify minimum efficient size standards.</p>	Redesign Primary and Secondary Service Areas
Hospital Financing	<p>Productivity of health expenditure standard with 3% decrease in hospital expenditure reallocated to lifestyle and environmental interventions or alternative care.</p> <p>Statewide Hospital Capital Development Fund "Capital Caps"</p>	Propose lifestyle interventions for independent funding based on perceived value and demonstrated effectiveness.	<p>Continued activity of</p> <p>(1) Prospective Rate Setting</p> <p>(2) PSRO</p> <p>(3) Certificate-of-Need Program</p>

Will "1984" Be A Year Late?

This contribution to the Rhode Island Medical Journal was submitted independently of the evaluation in Part I. Because it is a complementary approach to the A.D. Little Inc. document, therefore it is printed here as Part II of this Special Report on the Statewide Health System Plan.

The author, Peter P. Holman, is Vice President for Planning at the Hospital Association of Rhode Island. Mr. Holman is presently coordinating the efforts of the Voluntary Committee of Health Providers.

The paper which follows outlines a method of analysis by which a health planning effort can be assessed. In particular the author looks at the controversial State Health System Plan to point out its strengths and weaknesses. The methodology provides a lucid framework for judging the SHCC proposals.

Late in 1979 a proposed Rhode Island State Health Systems Plan was unveiled following two years of discussions between the State Health Planning and Development Agency (SHPDA) and the State Health Coordinating Council (SHCC). The Plan represents a sincere effort on the part of a small number of the SHPDA staff and thirty representatives of the public, who make up SHCC, to provide a framework for public policy regarding the future direction for health care in the state. Many of the recommendations in the Plan are simply the articulation of policy already arrived at informally. But others suggest new policy directions which could significantly alter the health system beyond what might be expected in natural evolution over the course of time. Many of the latter are recommended to be achieved in just five years, by 1985. In studying the Plan as a whole there is cause to wonder if they would bring Orwell's vision to reality in Rhode Island.

Many of the efforts to assess and evaluate the proposed Plan to date have dealt with specific sections, rather than analyzing the Plan on the basis of broad principles. The following criteria are offered as a framework for such analysis of the system:

1) *Availability* Health services should be readily available. The supply of services should be sufficient to meet the needs of the population.

2) *Accessibility* This principle, dealing with the question of the ability of the population to obtain care once it is available, is far more complex. Factors which must be considered in evaluating accessibility include: transportation, financial problems, language barriers, and other socio-economic considerations which

may become obstacles to the population receiving care.

3) *Quality* This is always an elusive principle. What as a society can do at best is to determine these elements of the system which are likely to encourage optimum results.

4) *Economy* The consideration of any program must be weighed in a societal sense against all reasonable alternatives, including a decision not to make a program available.

5) *Accountability* It must be ensured that authority and responsibility are linked to the decision-making process in such a manner that the impact of decisions made can be assessed by the public and that some direct accountability of decision-makers is provided.

In the following discussion key sections of the proposed Plan are examined in the light of these principles. Space does not permit separate consideration of each of the Plan's 44 goals or 88 strategies and tactics which have been proposed to achieve these goals. The analysis, therefore, will deal with topical areas rather than specific sections. The table represents my view of the likely impact of proposed policies on the principles. Although trade-offs must at times be made between these principles, it might be concluded that sections of the proposed Plan which appear generally to affect principles negatively are also likely to have a negative impact on the health of the population, while those tending to be positive will have a positive effect.

Availability

The proposed Plan could significantly alter the availability of health services in

the state. Many new provider modes are to be created, while the traditional methods of health care delivery would be reduced. Primary health care centers would be established throughout the state in an effort to make ambulatory care readily available. These centers would be tied into services providing health education, preventive medicine, and health screening, which would be designed to identify disease so that it can be treated early in its course. It is likely that in many cases, even where there has been early detection, inpatient management will be necessary. Yet, the Plan calls for the elimination of a significant number of short-stay hospital beds. The Plan would further reduce the availability of beds through the consolidation of beds in facilities of 250 or more beds.

Availability of physician services is also an issue. While the Plan calls for increasing the number of physicians in primary care, it is proposed that the total number of physicians be reduced by decreases in certain specialties. The ability to achieve several of the health status goals is likely to be seriously compromised by such a scheme. Although the Plan calls for reduction in mortality due to heart disease, cancer, strokes, homicides and suicides, the facilities and personnel to accomplish much of that reduction will not be available.

Accessibility

It is possible that some greater degree of accessibility to services may be provided under the Plan. All Rhode Islanders would have a minimum package of health benefits mandated by law, and apparently paid for through general state revenues. In addition, employers

IMPACT OF STATE HEALTH PLAN PROPOSALS ON FIVE PRINCIPLES

STATE HEALTH PLAN PROPOSAL:

IMPACT ON:

Goals	Availability	Accessibility	Quality	Economy	Accountability
Increase Health Education	+	+	+	+	+
Increase Primary Health Care Centers	+	+	+	-	+
Reduce Hospital Surgery	-	-	-	+	
	-				
Limit Physician Visit Capacity	-	-	-	+	
	-				
Reduce Hospital Expenditures	-	-	-	+	-
Increase Community Mental Health Centers	+	und.	+	+/-	+
Strategies					
Improve Transportation Services	+	+	+	+/-	+
Increase Disease Finding	+	und.	+	+	+
Increase HMO's	+	+	+/-	+	+
Improve Provider Coordination	+	+	+	+	+
Eliminate Non-effective Health Services	-	und.	+	+	+
Reduce Short-stay Hospital Beds	-	-	-	+/-	-
Limit or Reduce Specialty Physicians	-	-	-	-	-
Increase Primary Care Physicians	+	und.	+	+	+
Reduce Employed RN's	-	-	-	-	-
Tactics					
Establish School Health Educational Programs	+	+	+	+/-	+
Increase Pre-natal Care	+	+	+	+	+
Establish a Minimum Hospital Size of 250 Beds with M/S Units of 100 Beds, Peds of 20; OB of 32	-	-	+/-	-	-
Establish Preadmission Certification of Certain Hospitalizations	-	-	+/-	+/-	-
Establish Hospital Admission Scheduling System	-	-	und.	-	-
Close One School of Nursing	-	-	-	-	-
Develop Minimum Insurance Coverage for All Citizens	+	+	+	+	+
Modify Prospective Reimbursement Program	und.	und.	und.	-	-
Pool Hospital Depreciation	-	-	-	-	-
Establish Statewide Capital Budget	-	-	-	-	-

und. — Impact on principle cannot be determined on the basis of the proposal to date.

and unions would be encouraged to broaden the benefit packages of employees to include a full range of services alternative to hospitalization. If these changes are accomplished, accessibility to health services doubtless would increase. However, if services are reduced in the manner suggested above, the likely outcome will be a reduction in access to the system.

Quality

As has already been noted, the best one can do is make judgements on the likelihood of a service being of high quality based on the existence of certain factors. Constraining supply seldom increases the quality of a service. As to specialty physicians, for example, the absence of enough qualified specialists is likely to increase the pressure on less-qualified physicians to attempt procedures for which they are not fully trained, with resulting poorer quality.

The Plan calls for increasing hospital occupancies to a minimum of 88 per cent. In reality this should be considered a maximum rate. The fact is that, if 88 per cent or more of the beds in a facility are occupied *each day of the year*, the strains upon all of the support systems of a facility under such occupancy pressures are immense.

This, coupled with the concept of eliminating depreciation from hospital reimbursement, could be devastating. Depreciation dollars are used by hospitals to replace worn-out equipment and to update facilities. Without those dollars, the quality of care that a hospital would be able to deliver would rapidly deteriorate.

Economy

Much of the Plan is constructed on the concept of developing new health care services through a "reallocation" of existing health-care dollars. The Plan calls for a significant reduction in hospital services, so that more ambulatory care, health education, and preventive services can be financed. Asserted in the Plan is a belief that these alternatives will result in more productivity and greater "health" for the population. While, in fact, the alternatives proposed may reduce hospitalization to some degree over an extended period of time, it is questionable whether a dollar "saved" in hospital care will result in more than a dollar's worth of "health" through alternative approaches.

Accountability

While some recommendations in the Plan would appear to increase the

accountability of the health system, the reality is that, taken as a whole, the Plan is likely to reduce accountability. Many of the decisions regarding the future health system would be made within the Department of Health, often without the controls normally available in society today. Government decision-makers would permeate many sectors of the system. For example, the numbers, locations, and types of beds available in the system would be determined largely by state commissions, as would the numbers, locations, and types of residency training slots. Decisions regarding the allocation of developmental dollars (from pooling of hospital depreciation) would rest almost solely with government, which would also set a cap on capital expenditures in the State.

Conclusion

The proposed State Health Plan, like a diamond, has many facets. Analyses of it thus far have often examined the Plan from only one perspective. I have attempted in this paper to suggest an examination of the Plan in light of a broad set of principles which we hold to in our current health system. The question remains: Is the Plan a diamond in the rough, or merely a piece of cut glass?



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Myelomatosis and Hemolytic Anemia

Hemolytic Anemia, A RARE Complication of Multiple Myeloma, Is Successfully Managed By Splenectomy

Michael Friedland, MD
Paul Schaefer, MD

Anemia is a common complication of multiple myeloma occurring in approximately eighty per cent of patients at the time of diagnosis and in all patients at some time during the course of their disease.^{1,2} Waldenstrom³ and others have suggested that the severity of the anemia tends to parallel the extent of bone marrow involvement. Often, however, the degree of anemia is out of proportion to the extent of the disease. The anemia has been variously ascribed to inadequate erythropoiesis,³ shortened erythrocyte survival,⁴⁻⁷ or iron deficiency secondary to increased tumor demand,⁸ the anemia of chronic disease and drug-induced hemolytic anemia.

Patient Summary

This 44 year old man presented on April 3, 1976 with a history of pain over the right chest area for three months. The past medical history was not significant. Clinical examination was unremarkable except for the findings of pallor and pain elicited by palpation of the ribs over the upper portion of

the right side of the chest and the sternum. Laboratory findings on admission included a hemoglobin of 8.4 g/dl, hematocrit of 24 per cent, RBC count of $2.69 \times 10^{12}/l$, MCV of 89 fl, MCH of 31.8 pg, MCHC of 35.7 g/dl. The WBC count was $3.6 \times 10^9/l$ with 47 per cent pmn, 32 per cent lymphs, 10 per cent atypical lymphs, 10 per cent monocytes, and 1 per cent eosinophils. The platelets numbered $2.0 \times 10^{11}/l$. The ESR was 154 mm/hr Westergren method, partial thromboplastin time and prothrombin time were normal. Urinalysis was negative for blood, protein and glucose. The urinary pH was 5.0, the serum electrolytes were normal, the serum calcium 2.65 mmol/l and the phosphorus 1.49 mmol/l, the alkaline phosphatase was found to be 36 I.U., the uric acid 0.595 mmol/l. Liver function studies were normal. The total protein was 13.2 gm per cent with 31.6 per cent albumin, 1.8 per cent alpha 1 globulin, 5.9 per cent alpha 2 globulin, 6.6 per cent beta globulin, and 54.1 per cent gamma globulin (7.3 gm). It was identified as an IgG with a kappa light chain. The chest x-ray demonstrated an expanding lesion of the anterior aspect of the second left rib. Liver and spleen scans demonstrated a moderately enlarged spleen. On April 18, 1976 the patient's hemoglobin was 7.2 g/dl, and he was admitted to the hospital for transfusion. Chemotherapy was instituted with melphalan 6 mg/m² and prednisone 40 mg/m² by mouth. These medications were given on days 1-5 in a 28 day cycle. Over the succeeding two months, the patient experienc-

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ed severe back pain; however, no new findings were noted radiographically. He was treated supportively. A decrease in hemoglobin concentration leukocyte count and platelets were noted, despite discontinuance of chemotherapy. He received only one course of the above described chemotherapy. A red cell survival and sequestration study was begun because of the suspicion of hypersplenism. The erythrocyte survival study had to be discontinued because of repeated transfusions. The results of the sequestration study are depicted in Table 1. As noted, the patient required ten units of packed cells in the two months prior to splenectomy. Splenectomy was selected as the mode of therapy, corticosteroids were not administered. On June 17, 1976 the patient underwent splenectomy and has required three units of cells during the succeeding 18 months. The spleen was reported to be markedly enlarged; no amyloidosis or pathologic infiltrations were present. We have been able to reinstitute chemotherapy.

Discussion

Hemolytic anemia is a rare occurrence in myeloma. When reviewed by Dacie,⁷ there were a few accounts cited suggesting that hemolysis did occur. Cline and Berlin⁴ studied twelve patients extensively and found evidence of shortened erythrocyte survival of a mild degree, with a negative antiglobulin test in none of the eleven. They were unable to determine the causal factors in the shortened RBC survival. Pengelly¹⁰ studied one patient with IgG myeloma, splenomegaly and Coombs negative hemolytic anemia. No etiology could be ascribed in his case as well. In addition to these reports, melphalan has been implicated in Coombs positive hemolytic anemias.⁹ No comment with regard to the effects of therapy was made in Cline's study. In our patient, splenomegaly was noted at the time of diagnosis. This is an uncommon occurrence in IgG myeloma.¹¹ The hematologic improvement following splenectomy strongly implicates a hypersplenic state in this patient. It is also significant that the spleen was not involved with plasma cell or amyloid infiltration, but was congested and hyperplastic. Our patient had not been receiving alkylating agents for four weeks prior to worsening of his hematologic status. Hemolysis is generally due to intrinsic erythrocyte defects or to humoral factors such as seen in auto-immune hemolytic

Table 1. RBC Sequestration Study (Using Autologous RBC labeled with Cr⁵¹)

DAY	Bkg Rd Ct	Spl Ct.	Liver Ct	Pre- cordium	Spl/Liv	Spl/Ht
1	402	12250	5113	9857	2.51	1.25
3	372	12084	4079	8687	3.16	1.41
9	395	12326	5206	6405	2.48	1.99
10	389	15890	4331	5996	3.98	2.76
13	396	15061	3991	5055	4.08	3.15
15	363	13162	3396	4452	4.22	3.13

anemias. It is interesting to speculate on the etiology when none of these mechanisms can be invoked. Could the increase in circulating IgG cause an increase in blood viscosity significant enough to retard flow in the splenic circulation? If this were the case, then those erythrocytes would be exposed to the hostile splenic environment for greater than normal periods of time. An alternative possibility is that because of marked rouleaux formation due to the abnormal serum proteins in patients with myeloma, plus the presence of splenomegaly, the aggregated erythrocyte may be more susceptible to mechanical disruption in the spleen.

Although the mechanism of splenic destruction has not been elucidated by this case presentation, the therapeutic benefits of splenectomy seem very clear.

Summary

A patient with multiple myeloma required many blood transfusions for hemolytic episodes. The patient was found to have splenomegaly. A red blood cell sequestration study demonstrated marked splenic pooling consistent with hypersplenism. The patient underwent splenectomy, which has successfully managed his transfusion requirements. Possible mechanisms include nonspecific coating of red blood cells by immunoglobulin or alterations in viscosity producing prolonged splenic transit time.

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Informed Consent in a Surgical Emergency

A Critically Injured Man Is To Be Denied Medical Care Because A Relative Will Not Give Permission

Michael E. Scala, MD

For many years, it has served as a terse guide that "Lawyers should not be doctors, and doctors should not be lawyers". This dichotomy of mutually exclusive turf by and large had served well to fulfill the wishes and needs of society with a minimum of friction. However, in the middle portion of this century several trends have emerged that seriously question the worth of the above statement. An increased awareness and understanding of civil liberties often lead the individual citizen to challenge society's institutions and their perceived rights in the legal arena. In medicine the markedly accelerated pace of new and innovative technology has left the ethical structure regarding the rule of its use lagging far in the rear. It is because of the fact individual rights often conflict with society's rights and needs that this head-on collision is most often examined in the courts in an effort to arrive at fair and mutually beneficial solutions. It, therefore, behooves us, as physicians and lawyers, to assume a new posture. It is not only a matter of physicians and lawyers rearranging their thinking regarding heretofore traditional ideas, but for them to synthesize new and innovative modes of thoughts. Doctors must be lawyers and lawyers must be doctors! This suggested reinvestment of time

and energies in each other's areas of expertise is not a literal total admonishment but only a suggestion that each party must seek substantive knowledge in both fields and an appreciation of the modes of operation of both professions. To do otherwise is to increase the frustrations and anxieties of all parties. This knowledge and philosophy of operational methods can often assuage the litigation process and insure a fairer resolution in situations where medicine and law confront each other.

The Problem

On a recent Saturday evening, a 68-year old male was struck by a speeding vehicle, and having sustained severe cranio-musculoskeletal trauma, was taken to one of our area hospitals. His initial treatment in the emergency ward was rapid, intense, and commendable. A team of general surgeons repaired intra-oral and facial lacerations; his two compound tibias were irrigated, cleansed, closed and immobilized; and all needed support procedures were in operation. During the period of initial treatment, the operating room team was alerted and was busy readying the surgical suite for emergency surgery if and when required. The neurosurgeon and radiologist were in attendance preparing to perform cerebral angiography in order to assay the possibility of brain injury or increased intracranial pressure. Facial trauma was severe, and there was air throughout the cranium as demonstrated on the plain skull films. All systems were "go", and, although there was a strained anxiety on the part of all personnel,

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the entire problem and its treatment moved, so it seemed, in a rapid and coordinated fashion. It was at this point that the police were able to contact the next of kin. They arrived at the accident ward, presenting a sister with whom the injured man had resided for the past 30 years. The sister was quite agitated and demanded to see her brother at that moment, despite all assurances that emergency measures had been instituted and carried out. When she observed her brother in the accident ward with the various teams of support personnel performing their specific duties, it served only to heighten and polarize her anxiety and precipitate what appeared to be a hysterical reaction. She adamantly refused to give her permission to have her brother submit to the cerebral angiogram or any further surgical procedures. All pleas on the part of the attending physicians and nursing staff proved futile. The nursing personnel went to great lengths to isolate the sister in a more relaxed atmosphere, provide sympathy, and assure her that the contemplated procedures were necessary. In spite of these measures, attempts to secure written authorization were unsuccessful. At one point it appeared that verbal consent was given, witnessed by a charge nurse and physician, but this was soon retracted by the sister.

A Moral Dilemma

All preparations for further treatment ground to a halt as futility and frustration increased, indecision was rampant, precious minutes ticked by. A clear consensus as to a course of action was not reached. The situation resolved itself into an administrative and ethical debate as to the legality and appropriateness of the next step. The general surgeon and the orthopedic surgeon found themselves allied in a stance opposed by the radiologist and neurosurgeon. The former pair assumed the posture that further treatment and procedures, including surgery if necessary, should proceed immediately notwithstanding the sister's adamant refusal to give permission. They felt that this represented an emergency situation, and any sensible man would want and expect, and indeed demand, treatment for himself if he were salvageable and conscious. Even though he was unconscious and unable to give consent, the sister, next of kin, should not speak for him in so grave a situation, especially in her disturbed state. It was argued by the two surgeons that she was

hysterical and not capable of comprehending the gravity and critical nature of the situation. They were speaking from an ethical point of view and not from a legal perspective, since there is a good deal of confusion and ambiguous feeling regarding the present laws pertaining to these matters.

Holding an opposing view were the radiologist and the neurosurgeon. They assumed the common sense posture that further surgical procedures should not be performed in view of the sister's insistent refusal to grant permission. They felt society does indeed allow the next of kin or guardian to speak for the unconscious patient, and that there was precedent enough in the structure of common law to make it a hazardous journey to embark upon a course of action that would flaunt such prior precedent. As to a judgment that the sister was hysterical and unable to make a rational decision, they felt their expertise in this field was open to question. They recognized the high index of anxiety and fear that consumed the sister, but would not budge beyond that judgment. Throughout the proceedings it was pointed out that there was a real possibility that court proceedings for assault and battery could be instituted by the sister at a later date. Everyone involved felt uncomfortable about declaring by fiat that the sister was temporarily incompetent to make a rational decision.

The stalemate solidified as the parties consolidated their respective positions, supported by their personal ethics and fear of subsequent actions of a legal nature that could be brought against them.

Incidental Dynamics

Two interesting thoughts and observations surfaced at this time. One questioned, "Might it not be considered malpractice if needed action was delayed or not taken, thus resulting in the death of the patient, action that was obviously needed in spite of the sister's refusal?" The second consideration revolved about the thought, "Are not surgeons and orthopedists doctors first and foremost, and specialists only secondarily, therefore capable by virtue of training and education to declare a person mentally incompetent for decision-making, even if only temporarily?"

There is at present no clear consensus in the courts regarding this matter.

The observation was made that those who

were not to be responsible for subsequent dangerous and culpable actions were able more easily to arrive at a moral conclusion and delineate a course of procedure. The sense of urgency served as a catalyst and enabled this group to act in a corporate manner when reaching a decision. Guilt, responsibility, and fear of retribution could be diffused and diluted so as not to constitute a braking feature. However, this sense of corporate protection did not extend to the two individuals, neurosurgeon and radiologist, who would be individuals responsible for these deeds. The neurosurgeon who would have a patient die on the operating table while under scalpel would receive no succor or solace from the fact that the decision to proceed was a group decision. It appears to be easy to give more aggressive advice, and make decisions when one's participation is vicarious and not actual. Perhaps the point is well taken when, in the realm of bioethics and difficult moral dilemmas, the practicing physician levels criticism at the bioethicist, pointing out the philosopher's relative isolation and lack of medical expertise that lead to solutions that often are not practical and are bereft of emotional impact.

Resolution of a Medical Problem by the Legal System

To focus once again on our problem, it appeared at this point that the machinery was at a complete standstill. The hospital administrator was called to the scene to grapple with the situation. He immediately withdrew from any decision-making involvement in favor of the hospital attorneys. The hospital administrator was a dynamo of action, making all the needed calls, utilizing his expertise and knowledge to call the proper parties, and running back and forth from and to his office for information.

The hospital attorney was reached. We were informed that the only way to proceed in this situation, since a next-of-kin had presented herself and refused authorization for treatment, would be to obtain a writ from a superior court judge — on Monday! By now the entire mechanism for continued care of the patient had come to a complete halt. Crucial minutes were being squandered, rancor and recriminations were apparent in opposing camps, and it was close to midnight.

At this point the orthopedic surgeon elected to call Judge Anthony Giannini, Super-

ior Court Justice, apprise him of the situation and seek advice. The Judge responded admirably with concern and patience after having been awakened and listened carefully to the details. He asked one pertinent question, "Do you feel from a medical point of view that treatment is vital?" The answer was, "Yes". Judge Giannini then resolved the matter directly and without indecision by granting permission for the doctors to proceed! He stipulated that the hospital attorney talk with him and issue the proper forms asking for a writ as soon as possible.

Decisive action was immediately taken. The patient survived his injuries and convalesced with a good prognosis.

This scenario represents the ever-increasing interface between law and medicine. Physicians have come to realize that the practice of medicine has many legal, social, and economic aspects, ones that cannot be ignored. It behooves us, as physicians, therefore, to become acquainted with the law as related to medicine, the philosophy and methods of law, and how law functions in seeking its ends. For a smooth operating relationship, the opposite is true also, the legal system should be conversant with the physician's ethics, his philosophy, and modes of operations.

Doctors should be lawyers! Lawyers should be doctors!

Suggestion

As a result of this incident, the entire problem was presented to the Governor of Rhode Island with the suggestion that he proceed to formulate a system whereby a judge might be normally on call to respond in such situations. A list of such justices could be circulated to the various hospitals and its existence be made known to all working personnel.

Perhaps in this manner similar situations could be resolved in a fair manner with minimal anxiety and minimal expenditure of time, when time is crucial!

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Effect of Atmospheric Pollen on the Newborn

Study Indicates That Birth During Months Of High Pollen Concentration Predisposes To Allergy

Robert J. Settupane
George W. Hagy, PhD

Development of a seasonal allergic rhinitis appears to be significantly affected by both genetic and environmental factors. Yet the precise mechanism of onset still has not been explained. A possible environmental factor occurs at birth. The immunological system of the newborn is immature and may be unusually susceptible to allergens in his environment. Our purpose was to investigate the possible correlation between the newborn's allergic environment and the development of allergic symptoms by comparing the month of birth of the individual with the presence of ragweed sensitivity.

Materials and Methods

The present study is based on data from a college population as previously reported by Hagy and Settupane.¹⁻³ Their study focused on college freshmen who entered Brown University and Pembroke College in 1962 and 1963. In that study, "each freshman completed a questionnaire which documented any personal history of allergy. Students were assisted by allergy-trained medical personnel. Information recorded at that time included the specific type or types of allergy, onset age, duration, symptoms, time of year affected and therapy.

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... Medical personnel performed skin tests on the anterior forearm by the scratch test technique with the use of 15 commercial allergens, and a control".

The allergens included both short and giant ragweed extracts. "Scratch tests sites were read by an allergist 20 minutes after application of extracts and positive skin tests were interpreted as a wheal or an erythema. (Erythema in a control site was never as large as in a positive site.)

"An individual's diagnosis was established by evaluating the answers given on the original questionnaire as well as answers given to specific questions at the time of skin testing and additional information supplied by parents."

Clinical diagnosis was not based on skin test results. Instead, diagnosis was based on a student's symptomatic history. Hagy and Settupane list the criteria for a seasonal allergic rhinitis (hay fever) diagnosis as; a history of watery, itchy eyes, rhinorrhea, and sneezing occurring during the same seasonal period for at least two consecutive years.

New data for the present study involved obtaining birth date and birth place for each of the students in the original study. We determined this by examining Brown University student records. We were concerned only with those students whose diagnosis and skin tests were available. Hagy and Settupane reported 1243 students in this classification among the Caucasian students whom they studied. Students whose birth information was not available or who were born outside the continental United States were omitted. Thus, the total population of the original study was

reduced to 1,199 students for the present study.

We made two separate geographical divisions of the continental United States. Each division was for use in a different part of the study. The first part is called the ragweed study. For this, we divided the continental United States into "ragweed" and "non-ragweed" states. Non-ragweed states have ragweed pollens in essentially low concentrations in significant portions of the state. These states include: Arizona, California, Colorado, Florida, Idaho, Oregon, Maine, Montana, Nevada, New Hampshire, Montana, Utah, Washington, and Wyoming. The remainder of the continental United States comprises the ragweed states, in which ragweed has been reported to be in significant concentrations throughout the state. This classification of states is used in evaluating the frequency of ragweed sensitivity.

The second part of the study is referred to as the hay fever study. For this study, the continental United States is divided into "northern" and "southern" states. Northern states are those where the pollen season is confined to March through September. The southern states are the remainder of the continental United States where the pollen season extends beyond the time period which is used to define northern states. The southern states include Alabama, Arizona, Arkansas, California, Florida, Georgia, Louisiana, Mississippi, New Mexico, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, and Virginia. This classification of states is used in determining the frequency of a clinical hay fever diagnosis independent of the scratch test reaction. Information on the atmospheric pollen conditions of individual states, on which classification was based, was supplied by data reported by Oren C. Durham.^{4,5}

Results

I. Ragweed Study. The frequency of ragweed sensitivity was determined among students who were born in ragweed states. The frequency of ragweed sensitivity for each birth month is given in Table I as the percentage of students born in that month. In this Table, two classifications of ragweed sensitivity are given in columns 3 and 5; a positive ragweed skin test, and a positive ragweed skin test with a diagnosis of clinical hay fever.

Table 1. Frequency of Ragweed Sensitivity by Month of Birth of Students Born in Ragweed States.

(1)	(2)	(3)	(4)	(5)	(6)
Month	Total Population of Students	Ragweed Positive Skin Test	% T	Ragweed Positive Skin Test with Clinical Hay Fever	% T
January	81	19	23.5	12	14.8
February	83	13	15.7	8	9.6
March	78	14	17.9	11	14.1
April	94	9	9.6	6	6.4
May	109	25	22.9	14	12.8
June	109	22	20.2	16	14.7
July	81	17	21.0	11	13.6
August	96	18	18.8	13	13.5
September	100	29	29.0	20	20.0
October	103	12	11.7	8	7.8
November	84	8	9.5	3	3.6
December	91	19	20.9	10	11.0
TOTAL	1,109	205	18.5	132	11.9

The frequency of ragweed sensitivity is surprisingly high among students who were born in September. Furthermore, there appears to be a comparatively high frequency of ragweed sensitivity in the four months prior to September. The May through September period represents a frequency increase which culminates in September. Within the May through September period there is no significant frequency difference between adjacent months, indicating that this increase is continuous.

The birth months of October through April are grouped together as those months which have significantly lower frequencies than the birth months of May through September, when both classifications of ragweed sensitivity are compared (Table II). However, only September as an individual month demonstrates this same significant difference when compared to the October-April grouping. Thus a frequency increase starting in May and culminating in September is significant when compared to the rest of the year.

Within the months of October through April, the frequency of ragweed sensitivity is significantly lower in October and November than in the remainder of the months in this grouping. October and November represent the lowest frequency for any two consecutive months throughout the year. This is followed

Table 2. Frequency of Ragweed Sensitivity Comparing Different Months of Birth.

Months of Birth	Total Population	Positive Ragweed Skin Test	% T	P Value	Positive Ragweed Skin Test and Clinical Hay Fever		% T	P Value
Comparisons with October-April								
October - April	614	94	15.3			58	9.4	
May - September	495	111	22.4	<0.01		74	14.9	<0.01
August	96	18	18.8	N S		13	13.5	N S
September	100	29	29.0	<0.01		20	20.0	<0.01
May	109	25	22.9	N S		14	12.8	N S
Individual Comparison								
October - November	187	20	10.7	<0.05		11	5.9	<0.05
December - April	427	74	17.3			47	11.0	

N S NOT SIGNIFICANT (P>.05)

by a fluctuation in frequency from the month of December through May. When these months are compared to the months on May through September, a significant increase is observed in the latter grouping. Essentially, the frequency of ragweed sensitivity increases gradually from a low in the birth months of October and November to a high in the month of September.

The non-ragweed states population for our study was 90 students as presented in Table V. It is not possible to draw reliable conclusions based on this sample size.

II. Hay Fever Study The frequency of a clinical hay fever among students who were born in northern states is given in Table III. In this table the most significant division occurs by grouping together October and November as the birth months of lower hay fever frequency. When data are pooled, there is a significant difference between the low frequency observed in October-November and the frequency observed for the remaining birth months in the year.

Within the remaining months of the year, December through September, there appears to be a gradual increase in frequency with low frequencies occurring in December to February and high frequencies occurring in July to September. However, there is no significant difference when comparisons are made within this group (Table IV). When the December to February frequency pool is compared to the October-November group, there is again no significant difference. Thus a gradual increase

Table 3. Frequency by Month of Birth of Clinical Hay Fever Among Students Born in Northern States.

Month	Total Population	Clinical Hay Fevers	% T
January	79	22	27.8
February	77	21	27.3
March	76	26	34.2
April	94	20	21.3
May	100	24	24.0
June	108	29	26.9
July	80	25	31.3
August	95	28	29.5
September	99	32	32.3
October	97	22	22.7
November	84	13	15.5
December	88	22	25.0
TOTAL	1,077	284	26.4

over the low frequencies of October-November is observed with the three months of December to February occupying an intermediate position in this increase.

The southern states population for our study was 122 students. Because of small sample size, we were unable to draw any reliable conclusions from this group. Data are presented in Table VI.

Discussion

Our data demonstrates a surprising consistency for the frequency of ragweed sensitivity in ragweed states and the frequency of a clinical hay fever diagnosis in northern states.

Table 4. Frequency of Clinical Hay Fever Comparing Different Months of Birth.

Months of Birth	Total Population	Clinical Hay Fever	% T	P Value
Comparisons with October-November				
October-November	181	35	19.3	
December-September	896	249	27.8	<0.05
March-September	652	184	28.2	<0.05
December-February	244	65	26.6	NS
Comparisons with December-February				
December-February	244	65	26.6	
March-September	652	184	28.2	NS
July-September	274	85	31.0	NS

NS = Not Significant ($P > .05$)

A significant increase in frequency of these allergic conditions is observed in those individuals born approximately three months before the pollen peak season. This frequency increase is essentially culminated with those individuals born during the months of the pollen peak season. Also, we notice a sharp decrease in allergic frequency of students born in the month of October. This is important, because October is usually the end of the ragweed pollen peak season, which is also the end of the hay fever season. It is also notable that October and November represent the lowest allergic frequency for any two adjacent months taken together.

The consistency of results suggests a common mechanism underlying the birth month frequencies of ragweed sensitivity and clinical hay fever diagnosis. Past studies have pointed to transient IgA deficiencies as a possible factor in the development of allergic disease.^{6,7} A severe IgA deficiency occurs in the newborn. The immature immunological system of the newborn is characterized by adult levels of IgG as a result of transplacental passage of maternal antibody, low levels of IgM, and trace quantities of immunoglobulins of the IgD, IgE, and IgA class.⁸ Also, it appears that IgA levels undergo an approximately 10-fold increase over the first three months of life. This is the largest increase ever experienced in natural life. We conclude that the first three months of life represent a unique IgA immunodeficient period which may play an important role in the development of atopy in

later life. However, we do not exclude the possibility that other characteristics of the newborns immunological state may also be involved.

The mechanism we propose is that secretory IgA deficiency at mucosal surfaces allows excess penetration of sensitizing allergens.⁹ It is generally acknowledged that IgA functions as a primary defense mechanism against foreign antigens at all mucosal surfaces.^{10,11} We can then envision IgA having this parti-

Table 5. Frequency of Ragweed Sensitivity by Month of Birth of Students Born in Non-Ragweed States.

(1)	(2)	(3)	(4)	(5)	(6)
Month	Total Population	Ragweed Positive Skin Test	% T	Ragweed Positive Skin Test with Clinical Hay Fever	% T
January	4	1	25.0	0	0.0
February	6	0	0.0	0	0.0
March	7	0	0.0	0	0.0
April	13	4	30.8	4	30.8
May	4	0	0.0	0	0.0
June	11	1	9.1	1	9.1
July	11	2	18.2	1	9.1
August	9	0	0.0	0	0.0
September	9	3	33.3	1	11.1
October	4	1	25.0	1	25.0
November	7	1	14.3	1	14.3
December	5	0	0.0	0	0.0
TOTAL	90	13	14.4	9	10.0

Table 6. Frequency by Month of Birth of Clinical Hay Fever Among Students Born in Southern States.

Month	Total Population	Clinical Hay Fevers	% T
January	6	1	16.7
February	12	3	25.0
March	9	4	44.4
April	13	6	46.2
May	13	3	23.1
June	12	3	25.0
July	12	2	16.7
August	10	3	30.0
September	10	3	30.0
October	10	3	30.0
November	7	3	42.9
December	8	2	25.0
TOTAL	122	36	29.5

cular role against foreign antigens in the nasopharynx and in the respiratory and gastrointestinal tracts. If low levels of IgA allow excess penetration of foreign antigens, we may expect to observe a subsequent increased frequency of infection among those individuals with IgA deficiency. Indeed, recurrent bacterial infection of the respiratory system is commonly reported in IgA deficiency.^{12,13} It has also been suggested that IgA deficiency accounts for various gastrointestinal infections.^{15,16}

If excess penetration of foreign antigens results in sensitization, we may also expect to observe increased frequency of atopy among IgA deficient individuals. Indeed, there is evidence to suggest that the frequency of allergic disease is much higher in IgA deficient individuals than in the general population.¹⁷⁻²² Also, it is felt that IgA deficiency may underlie atopy in early life.^{6,23}

In relation to the present study, we feel that the unique IgA deficient period experienced during approximately the first three months of life is a critical period for sensitization to pollen antigens. The low levels of IgA in the upper respiratory tract allow excess penetration of the atmospheric pollen antigen present during this period. Sensitization to these specific allergens may occur subsequently if the subject has a predisposing genetic makeup. We feel that the high pollen concentrations present during the peak season are necessary to produce these effects. Accordingly, a significant increase in the frequency of pollen allergy is initiated in those individuals born approximately within three months of the pollen peak season in our study.

We may further theorize that those individuals who experience the pollen peak season with higher levels of IgA have better defense mechanisms against pollen penetration of their respiratory tracts. As a result we would expect to observe a lower frequency of pollen allergy among these individuals. Similarly, at the first exposure to the pollen peak season, the individuals born in the months prior to the season have an IgA level higher than those born in the midst of the season. This is because IgA levels are constantly on the rise during the entire first year of life.⁸ Using this hypothesis, we may understand the low allergy frequency experienced during the birth months immediately following the pollen peak season and the subsequent frequency increase which cul-

minates during the birth months of the peak season.

The individuals born in the months immediately following the pollen peak season (October, November) have developed relatively high IgA levels when they are eventually exposed to the high pollen concentration of the following pollen peak season. Their mucous membranes may be more resistant to antigen penetration, and these individuals experience a lower frequency of allergy. Individuals born in months progressively closer to the pollen peak season are less able to protect their mucous membranes against pollen penetration due to their lower levels of IgA at this time. This explains the increased frequency of allergic conditions as the months of the pollen peak season are approached.

For individuals with a positive family history of allergic disease, it may be of particular interest that there are two approaches to counter sensitization by such a mechanism. The IgA level of the newborn may be increased by breast feeding. Breast milk has been shown to possess antibody specific against enterotoxins.²⁴ Breast milk may also contain antibodies specific against other common antigens as well. Secondly, a hypoallergenic environment for the newborn would be beneficial.²⁵ This may be achieved by desensitizing the environment of the newborn. Also, birth month planning favoring October and November may have value. Both methods would decrease the risk of sensitizing antigens entering the newborns system in excessive amounts.

An interesting point for investigation of the proposed mechanism is the question of how it relates to genetic factors. Previous studies have reported that individuals with lower than normal serum IgA at three months had a greater frequency of atopic disease by one year of age.^{23,26} Individuals with a family history of allergic disease may inherit low levels of IgA which may lead to a predisposition to become sensitized to foreign antigens that enter the system.

Most studies²⁷⁻³⁰ agree that a sensitive period exists soon after birth when certain environmental factors may influence the development of hypersensitivity. Likewise, the present study suggests that allergens present in the newborn's environment cause an increased risk of developing allergy to these specific allergens. We further suggest that this increased risk may be associated with the deficient levels of IgA

found in early life. The results of our study may be unique to our population sample or similar populations, due to factors such as age group and geographical location. We therefore, recommend further population studies of this nature.

Summary

College students born in months with high concentrations of atmospheric ragweed pollen had a significantly increased risk of developing sensitivity to ragweed as compared to students born in other months. This increased risk may be associated with the immature immunological system of the newborn with specific regard to the deficient levels of IgA found at this time.

Acknowledgements We thank the Division of Allergy at Rhode Island Hospital and Guy A. Settipane, M.D. for their assistance.

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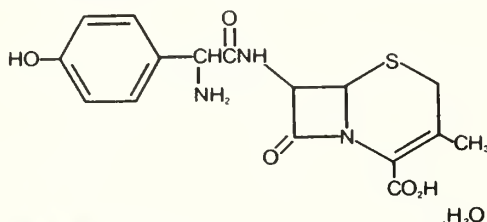
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References:

1. Data on file, Mead Johnson Pharmaceutical Division.
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DESCRIPTION: DURICEF® (cefadroxil monohydrate) is a semisynthetic cephalosporin antibiotic intended for oral administration. It is a white to yellowish-white crystalline powder. It is soluble in water and it is acid-stable. It is chemically designated as 7-[[D-2-amino-2-(4-hydroxyphenyl)acetyl]amino]-3-methyl-8-oxo-5-thia-1-azabicyclo [4.2.0]oct-2-ene-2-carboxylic acid monohydrate. It has the following structural formula:



Clinical Pharmacology—DURICEF (cefadroxil monohydrate) is rapidly absorbed after oral administration. Following single doses of 500 and 1000 mg., average peak serum concentrations were approximately 16 and 28 mcg./ml., respectively. Measurable levels were present 12 hours after administration. Over 90 percent of the drug is excreted unchanged in the urine within eight hours. Peak urine concentrations are approximately 1800 mcg./ml. during the period following a single 500 mg. oral dose. Increases in dosage generally produce a proportionate increase in DURICEF urinary concentration. The urine antibiotic concentration, following a 1 gm. dose, was maintained well above the MIC of susceptible urinary pathogens for 20 to 22 hours.

MICROBIOLOGY: *In vitro* tests demonstrate that the cephalosporins are bactericidal because of their inhibition of cell-wall synthesis. DURICEF is active against the following organisms *in vitro*:

Beta-hemolytic streptococci
Staphylococci, including coagulase-positive, coagulase-negative, and penicillinase-producing strains
Streptococcus (Diplococcus) pneumoniae
Escherichia coli
Proteus mirabilis
Klebsiella species

Note—Most strains of *Enterococci* (*Streptococcus faecalis* and *S. faecium*) are resistant to DURICEF. It is not active against most strains of *enterobacter species*, *P.morganii*, and *P. vulgaris*. It has no activity against *Pseudomonas* or *Herella species*.

Disc Susceptibility Tests—Quantitative methods that require measurement of zone diameters give the most precise estimates of antibiotic susceptibility. One recommended procedure (CFR Section 460.1) uses cephalosporin class disc for testing susceptibility; interpretations correlate zone diameters of the disc test with MIC values for DURICEF. With this procedure, a report from the laboratory of "resistant" indicates that the infecting organism is not likely to respond to therapy. A report of "intermediate susceptibility" suggests that the organism would be susceptible if the infection is confined to the urinary tract, as DURICEF produces high antibiotic levels in the urine.

INDICATIONS: DURICEF (cefadroxil monohydrate) is indicated for the treatment of the following infections when caused by susceptible strains of the designated microorganisms:

Urinary tract infections caused by *E. coli*, *P. mirabilis*, and *Klebsiella* species
 Skin and skin structure infections caused by staphylococci and/or streptococci

Note—Culture and susceptibility tests should be initiated prior to and during therapy. Renal function studies should be performed when indicated.

CONTRAINDICATION: DURICEF (cefadroxil monohydrate) is contraindicated in patients with known allergy to the cephalosporin group of antibiotics.

WARNING: IN PENICILLIN-ALLERGIC PATIENTS, CEPHALOSPORIN ANTIBIOTICS SHOULD BE USED WITH GREAT CAUTION. THERE IS CLINICAL AND LABORATORY EVIDENCE OF PARTIAL CROSS-ALLERGENICITY OF THE PENICILLINS AND THE CEPHALOSPORINS, AND THERE ARE INSTANCES OF PATIENTS WHO HAVE HAD REACTIONS TO BOTH DRUGS (INCLUDING FATAL ANAPHYLAXIS AFTER PARENTERAL USE.)

Any patient who has demonstrated a history of some form of allergy, particularly to drugs, should receive antibiotics cautiously and then only when absolutely necessary. No exception should be made with regard to DURICEF (cefadroxil monohydrate).

PRECAUTIONS: Patients should be followed carefully so that any side effect or unusual manifestations of drug idiosyncrasy may be detected. If a hypersensitivity reaction occurs, the drug should be discontinued and the patient treated with the usual agents (e.g., epinephrine or other pressor amines, antihistamines or corticosteroids).

DURICEF (cefadroxil monohydrate) should be used with caution in the presence of markedly impaired renal function (creatinine clearance rate of less than 10 ml/min/1.73M²). (See Dosage and Administration.) In patients with known suspected renal impairment, careful clinical observation and appropriate laboratory studies should be made prior to and during therapy.

Prolonged use of DURICEF may result in the overgrowth of nonsusceptible organisms. Careful observation of the patient is essential. If superinfection occurs during therapy, appropriate measures should be taken.

Positive direct Coombs tests have been reported during treatment with cephalosporin antibiotics. In hematologic studies or in transfusion cross-matching procedures when antiglobulin tests are performed on the minor side of Coombs testing of newborns whose mothers have received cephalosporin antibiotics before parturition, it should be recognized that a positive Coombs test may be due to the drug.

USAGE IN PREGNANCY: Although no teratogenic or anti-fertility effects have been seen in reproductive studies in mice and rats receiving dosages greater than the normal human dose, the safety of this drug for use in human pregnancy has not been established. The benefits of the drug in pregnant women should be weighed against a possible risk to the fetus.

ADVERSE REACTIONS: Gastrointestinal—The most frequent side-effect has been nausea. It was infrequently severe enough to warrant cessation of therapy. Administration with food decreases nausea and does not decrease absorption. Diarrhea and dysuria have also occurred.

Hypersensitivity—Allergies (in the form of rash, urticaria, and angioedema) have been observed. These reactions usually subsided upon discontinuation of the drug.

Other reactions have included genital pruritus, genital moniliasis, vaginitis, and moderate transient neutropenia.

DOSAGE AND ADMINISTRATION: DURICEF (cefadroxil monohydrate) is acid-stable and may be administered orally without regard to meals. Administration with food may be helpful in diminishing potential gastrointestinal complaints occasionally associated with oral cephalosporin therapy.

Adults—For urinary tract infections the usual adult dosage is one gm. (two 500 mg. capsules) two times per day. For skin and skin structure infections the usual dose is 500 mg. two times per day or 1 gm. once a day.

In patients with renal impairment, the dosage of cefadroxil should be adjusted according to creatinine clearance rates to prevent drug accumulation. The following schedule is suggested. In adults, the initial dose is 1 gm. of DURICEF (cefadroxil monohydrate) and the maintenance dose (based on the creatinine clearance rate [ml/min/1.73M²]) is 500 mg. at the time intervals listed below.

Creatinine Clearances	Dosage Interval
0-10 ml/min	36 hours
10-25 ml/min	24 hours
25-50 ml/min	12 hours

Patients with creatinine clearance rates over 50 ml/min may be treated as if they were patients having normal renal function.

Children—Dosage and safety have not yet been established in children.

HOW SUPPLIED: DURICEF® (cefadroxil monohydrate) capsules 500 mg. for oral administration in an opaque maroon cap and opaque white body No. 0 in gelatin capsule. On each half capsule printed in black is "MJ" and "500." Available in bottles of 24 capsules (NDC 0087-0784-41) and 100 capsules (NDC 0087-0784-42).

U.S. Patent Re. 29,164

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Professional Corporations — Fact or Fiction?

Adherence To Guidelines Will Strengthen Professional Corporations Against Attack By The Internal Revenue Service

Richard C. Sisco, JD, CPA

Like a new product or a fad, Professional Incorporation is increasing at a rapid pace. This is the result of an announcement made by Internal Revenue Service on August 8, 1969. On that date, a "V-Day for Professional Corporations",¹ the Internal Revenue Service stated:²

The Internal Revenue Service announced today, in response to recent decisions of the Federal courts, that it is conceding that organizations of doctors, lawyers, and other professional people organized under state professional association acts will, generally, be treated as corporations for tax purposes . . .

Notwithstanding this position taken by Internal Revenue Service, it is this author's opinion that professional incorporation is not to be equated with business or commercial incorporation. Today the run-of-the-mill business takes incorporation almost as a necessity both from a tax standpoint and also from a legal standpoint. However, because of the personal nature of the various professions, different considerations must be reviewed before attempting the mechanics of incorporating. The professional earns his keep by ren-

dering a private service to a client, not a customer. Corporations are fictitious, intangible beings existing only in the eyes of the law. Therefore, can a corporation render this private and personal service? Also, will the client lose the rapport that is necessary between him and his adviser when he deals with a professional corporation which has no personality, feelings, or compassion? Only time can answer these questions, but nevertheless this author wishes to point out the differences that exist between business corporations and professional corporations.

Certainly the Internal Revenue Service is not oblivious to these differences and, therefore, will continue to give close scrutiny to professional corporations. The mechanics of incorporating are standardized and clearly made out in various state statutes. For example, the Rhode Island General Laws provide that different types of professionals may incorporate.³ The General Laws also provide that "every officer, director and shareholder of said corporation is an individual authorized to practice such profession, and is actively employed by the corporation in such practice. No such individual may be an officer, shareholder, director or employee of any other corporation engaged in the practice of the same profession."⁴ The statute also provides that the professional corporation must end its name with the words "Corporation" or "Incorporated" and in addition must carry liability insurance of not less than \$100,000.

RICHARD C. SISCO, *Assistant Professor of Business Law, University of Rhode Island, Kingston, Rhode Island.*

Section 7-5.1-1 of the Rhode Island General Laws provides that, for the most part, the sections of the statute that apply to business corporations shall also apply to professional corporations unless specifically changed by the legislature. In Rhode Island, therefore, in order to incorporate one's practice, one must file one's completed Articles of Association with the Office of the Secretary of State along with an insurance certificate. Upon the filing of the Articles and payment of statutory fees, the professional corporation is legally created. However, it would be a mistake to assume that, once the legal formalities have been complied with, the professional no longer has to be concerned with the Internal Revenue Service. The days of "Big Brother" are upon us, and it is very clear that the Internal Revenue Service will not recognize the "Corporateness" of professional organizations which are clearly shams.⁵

The Internal Revenue Service has its own idea of what constitutes a corporation for tax purposes. The professional should be cautioned not only to maximize the four attributes of corporate existence (limited liability, centralized management, continuity of existence, and free transferability),⁶ but also to conform in daily operations to the indicia of an ordinary business corporation.⁷ The Internal Revenue Service is well aware of the fact that professionals, supposedly possessing dedication to the professions, are rather "slipshod in their business affairs".⁸ Armed with this knowledge, the Internal Revenue Service can and will reek havoc on a professional corporation by "piercing the corporate veil" where the corporation is only a "dummy" or lacks "economic reality," or if it violates the doctrine of "substance versus form".⁹

Congress also has provided the Internal Revenue Service with more artillery to bombard the "corporate veil" in sections 269 and 482 of the Internal Revenue Code. Section 269 grants to the Internal Revenue Service the power to disallow tax deductions when a person (or persons) acquires (acquire) control of a corporation for the "principal purpose" of "securing the benefit" of such deductions. Since section 269 applies to individuals forming corporations,¹⁰ professionals "should not go trotting back to the office and confide to their head nurse or secretary that they have decided to form a corporation because it is a tax panacea. If tax litigation ever materializes,

it is possible that the government attorney will take the deposition of this confidant and if she repeats what was told her, the results may be calamitous."¹¹ To avoid an attack by weapon 269, the professional should have all corporate records and discussions replete with the business advantages of incorporating. Whether Internal Revenue Service will employ the use of section 269 remains to be seen, but, nevertheless, "preventive medicine" is the best approach in this author's view. The other piece of artillery that the Internal Revenue Service has stored in its arsenal is section 482, which provides that the Internal Revenue Service can reallocate income, deductions, and credits between two or more businesses "owned or controlled directly or indirectly by the same interest", whether or not such business is incorporated, if the Service reasonably determines that such action "is necessary in order to prevent evasion of taxes or clearly to reflect the income of any of such . . . businesses".

It is this author's opinion that section 482 is a potentially dangerous tax trap, especially for the one-man professional corporation. Under section 482 the Service may take the position, especially in one-man corporations, that the individual is diverting his income to the corporation and in effecting holding that he is not a true "employee" of that corporation. The service may claim that the individual and not the corporation earned the income. To overcome this problem, professionals must clearly establish an employment relationship with their company. As a practical matter, it is very difficult for the one-man corporation to establish a "pure" employee-employer relationship with himself and his corporation. It would be pure legal gymnastics to make an argument for a "perfect" employee relationship with the one-man corporation, since it lacks associates and has less substance with respect to the four previously mentioned attributes of a corporation. If a sole practitioner elects to incorporate, he must exercise utmost care in acting as a corporation, and he must observe all of the corporate formalities. This is especially important, since many states, including Rhode Island, allow closely held corporations to dispense with the usual corporate formalities, such as by allowing a one-man board of directors or dispensing with a board of directors entirely. As was previously mentioned, the Internal Revenue Service is not bound by state

law and will use its own criteria to test the strength of the corporate shield.

To illustrate the disastrous result of a mismanaged professional corporation, let us take a look at a recent case, namely, *Roubic v Commissioner of Internal Revenue*; 53 TC 365 (1969). This case involved a Wisconsin professional corporation organized by four unrelated and geographically separate radiologists. They formed the corporation, signed employment agreements, adopted a pension plan, and complied with other legal formalities. However, the four incorporators continued to function under their own names, except that their fees and expenses went into the corporate checking account. The court held that the corporation was a mere bookkeeping device which had no practical business purpose and that the four radiologists earned the income individually. As a result, the court ignored the corporate shield and imposed deficiencies against the four radiologists totaling \$35,039.01. The court stated the issue very succinctly:¹²

In other words, did the corporation "earn" the income? It is fundamental that income is taxed to the true "earner" thereof. If the income here was earned by the petitioners, the Commissioner must prevail. In the case of a corporation which provides personal services for a fee, income is "earned" by the corporation or by the person who actually performs the services, whoever has the "ultimate direction and control over the earning of (the) compensation." Richard Rubin, 51 TC 251, at pp 265-266 (1968), citing Lyon and Eustics, "Assignment of Income: Fruit and Tree as Irrigated by the PG Lake Case." 17 Tax L Rev 393 (1962). (The Commissioner contends that the petitioners surrendered control over their services to the corporation in form only, while actually retaining such control, and that they were not bonafide employees of Pfeffer Associates during 1965. We agree).

This case is a very important lesson for attorneys and accountants involved in the formation and operation of a professional corporation. The capable and knowledgeable counselor will recommend the formation of a real corporation in substance as well as form and in turn avoid the tax court if possible.

There have been serious blunders in the

formation and operation of professional corporations, a few of which are as follows:¹³

1. On the golf course, a physician whose practice was recently incorporated was overheard to say, "We incorporated our practice to save taxes; otherwise, it is a nuisance." (It is hoped that a representative of the Service was not within earshot.)

2. A doctor obviously failed to understand the difference between himself and the corporation. The corporation's checks bore the notation "John Jones, MD, PA," but were signed "John Jones, PA".

3. A doctor formed a corporation which adopted a pension plan. Six years later, while still "incorporated," he adopted an HR 10 (Keogh) plan for self-employed individuals!

4. An incorporated doctor decided to pay himself an annual salary of \$30,000. So every month he wrote himself a check for \$2,500, but ignored withholding and Social Security deductions.

These unfortunate occurrences can be avoided if the professional corporation undergoes a continuing professional "check-up".

Conclusion

This paper is not intended to place a damper on professional corporations. On the contrary, its purpose is to inform the public and professionals as to the complexity of professional incorporation with respect to the tax law. I would conclude this brief treatise by stating that the problems mentioned are only a few of the many that may be encountered in forming and operating a professional corporation.¹⁴ To mention all of the problems would certainly be beyond the scope of this discussion. The following is a set of recommendations for the formation and operation of a professional corporation!

1. Strict use of the corporate name is an important requirement on all documents, office stationery, equipment agreements, signs, and signatures must indicate the signatory's representative capacity.

2. Avoid the diversion of income, and notify all clientele to make checks in the corporate name.

3. Observe all corporate formalities, such as minutes, by-laws, stock book, and seal.

4. Attempt to have a responsible and functioning board of directors where possible.

5. Draft employment contracts which fix a

reasonable compensation.

6. Always stress business motives of incorporating when discussing the corporation.

7. Pay taxes as a corporation, especially with respect to payroll taxes and corporate income tax.

8. Avoid paying personal bills with corporate funds, and also avoid intermingling of corporate funds with personal funds.

It certainly would be fallacious to state that these points would insure a fortress of protection against an attack by Internal Revenue Service. Each case presents its own peculiar problems, and the eight points must be viewed in that light. It is my opinion that close adherence to these guidelines will certainly strengthen the professional corporation against an attack by the Internal Revenue Service. I should like to conclude with the following comment made by an Internal Revenue Service agent some years ago: "If you want to act like a pig, we may let you; if you want to act like a hog, we won't."¹⁵

References

¹Eaton, Business Organizations — Professional Corporations and Associations, Vol 17 § 1.01 (1970)

²TIR No 1019. For the background of this release, see Worthy, "IRS Chief Counsel Outlines What Lies Ahead for Professional Corporations", 32 J Taxation 88 (1970)

³Rhode Island General Laws, 1956, as amended, § 7-5. 1-2. The professionals are doctors, lawyers, dentists, osteopaths, engineers, architects, certified public accountants, veterinarians, chiropractors, chiropodists, registered nurses and optometrists.

⁴Rhode Island General Laws, 1956, as amended, § 7-5. 1-3

⁵See Roubic v Commissioner of Internal Revenue, 53 TC 365 (1969).

⁶Eaton, Business Organizations — Professional Corporations and Associations, Vol 17 § 6.02 (1970)

⁷Strong, "Practical Realities" in Professional Corporations, 187, 190-196 (RLI 1970)

⁸Eaton, Business Organizations — Professional Corporations and Associations, Vol 17 § 12.14 1 (1970)

⁹Floyd Patterson, 25 TCM 1230 (1966), aff'd 68-2 VSTC § 9471 (2 D Cir 1968). In this case the court said, "... petitioners simply did not put flesh on the bones of the corporate skeleton. Indeed, the bones are so transparent that the corporation should more properly be classified as a wraith."

¹⁰Borge v Comm'r, 405 F 2D 673 (2D Cir 1968)

¹¹Eaton, Business Organizations — Professional Corporations and Associations, Vol 17 § 6.03 (1970)

¹²53 TC 365 (1969)

¹³Eaton, Business Organizations — Professional Corporations and Associations, Vol 17 § 12.15 2 (1970)

¹⁴Some of the other problems encountered in forming a professional corporation are the following: 1. Section 351 of Internal Revenue Code (transfers to controlled corporations); 2. "Personal holding company" threat under section 542 of Internal Revenue Code; 3. Subchapter S corporations and reasonable compensation problems.

¹⁵Lawyers World, April — May 1970, Vol 1, No 1 at page 11

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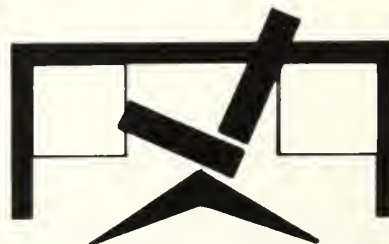
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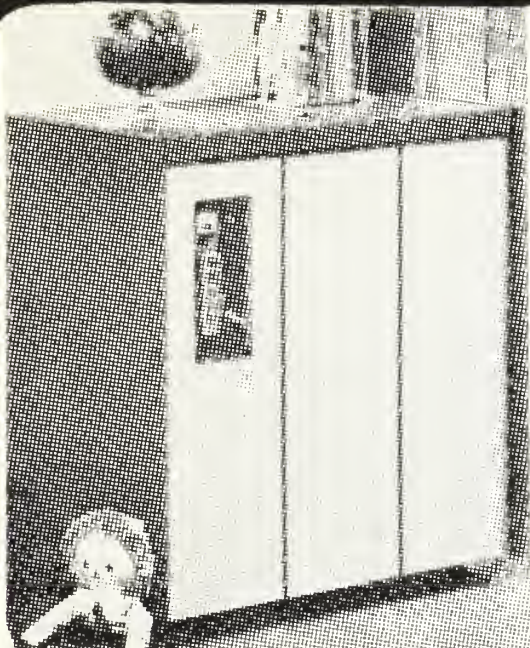
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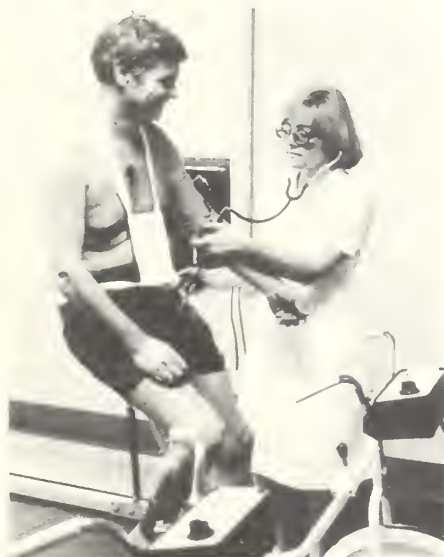
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Report of the House of Delegates

Minutes:

October 10, 1979

A meeting of the House of Delegates of the Rhode Island Medical Society was held on Wednesday, October 10, 1979 in the auditorium of the Rhode Island Medical Society.

The meeting was called to order by the Speaker of the House, Dr. Leonard S. Staudinger at 2:10 pm. Members present were:

Officers: Charles L. Hill, MD, President; Peter L. Mathieu, Jr., MD, President-Elect; Melvin D. Hoffman, MD, Secretary; Melvyn M. Gelch, MD, Treasurer.

Immediate Past President: Joseph E. Caruolo, MD

Delegates:

Kent County: James R. Hagerty, MD

Newport County: Charles P. Shoemaker, Jr., MD

Pawtucket District: Robert E. Curran, MD

Providence Medical Association: Thomas G. Breslin, Alphonse R. Cardi, John J. Coughlin, Melvyn M. Gelch, Herbert F. Hager, Charles L. Hill, Melvin D. Hoffman, Harry M. Iannotti, Robert A. Indeglia, William J. MacDonald, Betty B. Mathieu, H. Raymond McKendall, Anthony F. Merlino, Daniel Moore, P. Joseph Pesare, Robert J. Rosenberg, Guy A. Settippane, Rajnikant K. Shah, Louis V. Sorrentino, Richard L. Testa, Joseph R. Tucci, MDs.

Washington County: Louis A. Morrone, MD

Woonsocket District: Orazio J. Basile, Oscar Dashef, MDs.

Specialty Society Representatives: Frank P. Duffy, John J. Coughlin, Royal C. Hudson, Charles E. Millard, Louis Hafken, Augustine M. McNamee, Guy A. Settippane, Arthur I. Geltzer, Stephen Issenberg, MDs.

Commissioners: Donald P. Fitzpatrick, Daniel Moore, Anthony F. Merlino, MDs.

Members Ex Officio: Seebert J. Goldowsky, John J. Cunningham, Herbert F. Hager, William J. MacDonald, MDs.

Speaker: Leonard S. Staudinger, MD

Vice-Speaker: Charles P. Shoemaker, Jr., MD

Also Present: Charles E. Millard, MD Chairman, Subcommittee on SHCC; Robert D. Coli, MD, Chairman, Ad Hoc Committee on the Independent Practice Association; Karen Challberg, Howard Lawton, Jim Clarkin, staff members.

Approval of the Minutes Of the Previous Meetings

The Speaker noted that the minutes of the previous regular meeting on 3/21/79 and the special meeting of the House of Delegates on 9/5/79 had been printed and distributed by the Secretary.

Action: A motion was made seconded and voted that the minutes of the regular meeting of the House on 3/21/79 and the special meeting of the House on 9/5/79 be approved and placed on record.

Report of the Secretary

The Speaker noted that the Report of the Secretary was included in the handbook and called for a discussion of any items appearing therein:

The following items were of an informational nature and were accepted without discussion: #1, 3, 4, 5, 7, 8, 9, 10, 13, 14, 17, 18, and 21

2) The President noted that the Annual Meeting of the Society will be held on Wednesday, May 14, 1980 at the Biltmore Plaza and that the Specialty Societies are again being invited to participate.

6) It was noted that once again the Society achieved an excellent legislative record during the 1979 session of the General Assembly due to the efforts of the Public Laws Committee, chaired by Dr. Peter L. Mathieu, Jr., legislative counsel and staff.

11) Dr. Charles E. Millard, Chairman of the Subcommittee on SHCC apprised the House of his committee's work with respect to reviewing the Health System Plan and preparing testimony for the public hearings tentatively scheduled for late 1979 or early 1980. He urged the delegates to carry the message of physician involvement to those in their respective districts.

12) This item notes that following competitive bidding, American Universal Insurance Company has been retained as the servicing agent for the JUA and all JUA funds will be transferred from the Hospital Trust Bank of Rhode Island to the Old Stone Bank effective January 1, 1980.

(This is a correction to item #12 as it appeared in the handbook, stating, "and all JUA funds had been transferred from the Industrial National Bank to the Old Stone Bank".)

15) It was noted that the President had requested of the Councillors the names of any members in their respective districts whom they considered worthy of consideration by the nominating committee for office in the Rhode Island Medical Society.

16) The name of Dr. Melvin D. Hoffman was recently submitted to Governor Garrahy by the Society for consideration to succeed Dr. Robert W. Fowler on SHCC.

19) The remaining schedule of major meetings for 1979 and 1980 is as follows:

Monday, November 5, 1979 — Council

Monday, January 14, 1980 — Council

Wednesday, January 30, 1980 — House

Monday, March 10, 1980 — Council

Wednesday, March 26, 1980 — House

Wednesday, May 14, 1980 — Annual Meeting

20) The Rhode Island Thoracic Society whose request for recognition and representation in the House of Delegates had been rejected by the Committee on Newly Formed Specialty Societies, because it did not fulfill the established criteria, appealed this decision to the Council.

The Council voted the Rhode Island Thoracic Society be granted recognition and representation in the House of Delegates without a vote and with the provision that its representative must be a member of the Rhode Island Medical Society.

22) Dr. Robert D. Coli, Chairman of the Committee on IPA's apprised the House of the increasing number of IPA's throughout the country noting that this is an alternative method of the delivery of medical care which is physician controlled and managed. He urged consideration of exploring the feasibility of the medical society establishing a statewide IPA. Since the presentation of this subject at this meeting was not meant to be a formal proposal for funds, it was agreed that the subject be referred back to the Council for discussion.

Treasurer's Report

The Speaker reported that the Report of the Treasurer was included in the handbook.

Dr. Melvyn M. Gelch, Treasurer, reported that membership has increased slightly over the past two years and noted that the Providence Group's performance in managing the Society's funds has resulted in a substantial increase in income from that previously enjoyed.

The treasurer reviewed each specific item in the proposed budget for 1980 explaining in specific instances the reasons for increases or decreases from the previous year.

Action: A motion was made, seconded and voted that the proposed budget for 1980 be adopted.

Action: A motion was made, seconded and voted that the Report of the Treasurer, as submitted, be approved and placed on file, subject to audit.

The House of Delegates commended Dr. Gelch for his outstanding work as Treasurer, and for the positive financial gains resulting because initiatives he has suggested were adopted.

Recommendations from the Council

1) *Legislative Counsel:* The House approved the Council's recommendation that

Atty. Charles L. Butterfield be retained to represent the society as legislative counsel for the 1980 session of the General Assembly.

2) *Staff Salary Increases:* The House approved the Council's action in granting a cost of living increase (10% + 1%) to staff employees effective July 1, 1979. The cost of living index used is that for the period beginning July 1 of the previous year through June 30 of the current year.

3) *Benevolence Fund:* The House approved the action of the Council in appointing Dr. Frank W. Sullivan as a Trustee of the Benevolence Fund to complete the unexpired term of Dr. Meyer Saklad (deceased).

4) *The Cooper Property:* The House of Delegates approved, with one nay vote, the Council's recommendation to purchase the Cooper property which adjoins the medical Society building on Hayes St. at a purchase price of \$95,000 on the basis of one quarter payment at the closing and the balance in three equal payments at 6 month intervals, including reasonable interest and subject to the Society acquiring suitable financing.

5) *Budget and Dues:* The House approved the proposed budget for 1980 and voted that the annual dues remain at \$175 for active members in practice more than one year and \$87.50 for those in their first year of practice.

6) *Membership Dues (New Membership Categories):* The House approved the following annual dues for new membership categories under the revised Membership Section of the Bylaws:

Associate and Affiliate Members —	\$175.00
Residents —	35.00
Physician's Assistants —	35.00
Honorary Members —	-0-
*Medical Students —	-0-

*The *Rhode Island Medical Journal* will be sent only to the senior medical students.

Report of the AMA Delegates

Dr. John J. Cunningham and Dr. Herbert F. Hager, Delegate and Alternate Delegate, respectively, to the AMA House of Delegates reported briefly on the highlights of the AMA House of Delegates meeting, July 23-27, 1979 as summarized in the House Handbook.

Committee Reports (written)

The Speaker noted that the committee reports in the House Handbook were for informational purposes only and did not require any special House action.

Action: A motion was made, seconded and voted that the committee reports on Aging, Scientific Work and Annual Meeting, Self-Insurance, Publications and CME Committees be placed on file.

Committee Reports (oral)

Dr. Herbert F. Hager, Chairman of the Committee on Credentials and Standards reported briefly that in cases of disability or relocation to Rhode Island for a period less than the three year requirement for relicensure, a pro-rating of CME credits will be acceptable. He noted also that physicians should be advised to submit only the summary and not the actual documentation papers.

Adjournment

There being no further business, the meeting was adjourned at 4:25 p.m.

Respectfully submitted:

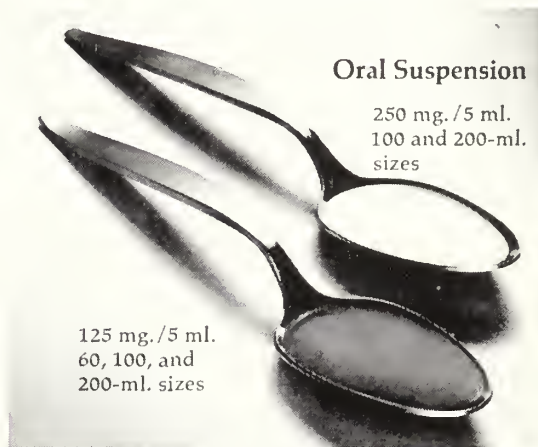
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Editorials

Nursing Homes

A recent report from the Rhode Island Department of Health analyzes trends in the nursing home industry for the period 1971 to 1978 inclusive and makes some predictions for the near future.

During the period under study the number of skilled nursing facility (SNF) and intermediate care facility (ICF-I and ICF-II) beds in Rhode Island increased from 5,758 to 8,643 with 77 net additional beds currently under construction and another 620 likely to be constructed. This will raise the total number of such beds in Rhode Island to 9,300 within the next two years. While there has recently been an adequate supply of SNF beds, the availability of ICF-I and ICF-II beds has at times been tight. The projected increase should go a long way toward eliminating any shortage if in fact it does not result in an oversupply. This is nevertheless a desirable trend, since the proportion of older citizens in the community will progressively increase and the bed capacity and domiciliary role of the state institutions (the General Hospital, the Institute of Mental Health, The Ladd School, and Zambano Memorial Hospital) will decline.

During the period 1971-1978 expenditures for care in nursing facilities increased from \$25 million to \$86 million. Over the eight year period the occupancy rate averaged 91.6 per cent.

The Health Department was authorized as January 1977 to license homes for the sheltered care of adults, an authority not previously granted to the department. Although no such facilities have yet been licensed, it is anticipated that many generally designated "boarding homes" will be eligible for such licensing. It is implied that inspections leading to licensure will be undertaken in the near future. This is a welcome development, as many of these homes are shabby and provide marginal care.

The sources of reimbursement, as analyzed in the report, are of considerable significance. Seventy-three per cent of the total days were paid for by Medicare and Medicaid (largely by

Medicaid). Some of the remaining patients, although all are classified as private, actually receive Social Security Subsistence (SSI) payments. So the total of federal and state funding involved could amount to or exceed 80 per cent.

It should be noted, although it is not reflected in the dry statistics of the report, that the quality of care in the nursing homes of Rhode Island and their general attractiveness have improved strikingly during this period, largely through the efforts of the Health Department, with the support of the Department of Social and Rehabilitative Services. It is anticipated that this improvement will continue.

It's Time To Stop Preventable Childhood Diseases

Something is wrong. For a good, solid decade — 1964 to 1974 — the use of vaccines rose steadily and the incidence of disease among children declined. There was good reason to begin to hope that the diseases might eventually disappear. But then a general loss of interest set in. Perhaps too many thought the diseases were no longer a problem. Indeed, many of today's physicians and parents are too young to remember from first hand experience what the horrors of a disease like polio really are. In any event, the use of vaccines began to slide, and before long the incidence of diseases started up again.

Measles is a case in point — 22,000 cases in 1974, 24,000 in 1975, 41,000 in 1976, 57,000 in 1977. With each year came tragic accounts of disease complications and deaths.

If measles is the worst problem among the childhood diseases, mumps is generally agreed to be the least troublesome. But according to the October 6, 1978, issue of *Morbidity and Mortality Weekly Report*, this supposedly innocuous disease was, until recently, the most commonly diagnosed cause of primary and post-infectious encephalitis, accounting for about 36 per cent of all cases in 1967 and falling to four per cent in 1976. The drop in its leadership role as a cause of encephalitis is

only partially attributable to vaccine usage; other factors include a steep rise in arboviral encephalitis that changed the percentage dramatically.

Although some studies have reported 60 to 100 cases of encephalitis to every 1000 cases of mumps, reports to the Center for Disease Control of the Department of Health, Education, and Welfare are much lower — 1.4 per thousand. In any event, the case-fatality ratio for mumps-induced encephalitis averages about 1.2 per cent, so the simple fact of the matter is that children are dying because they have not been vaccinated for mumps. Others experience other complications, including deafness. And, of course, all children who get mumps, whether they suffer complications or not, are unnecessarily ill.

Mumps has the worst vaccination record of all the diseases — only 52 per cent of the nation's children under age 10 have been vaccinated for it — but the records of the other diseases are good only by comparison. About 70 per cent have been vaccinated for measles, 61 per cent for polio, 66 per cent for rubella, and 69 per cent for diphtheria, pertussis, and tetanus. Not only are the immunization levels of all the diseases substantially behind the 90 per cent goal set by the Center For Disease Control (CDC) for the autumn of 1979, all have fallen well below the level reached a few years ago. The outbreaks of measles and the small number of cases of polio reported each year are minor skirmishes compared to the sieges that could take place unless more children are immunized.

When confronted with such finds, there is a tendency among those of us in the medical community to shake our heads solemnly and bemoan the fact that the country is peopled with negligent parents. Our assumption is that the unvaccinated children are not and have not been under the care of a doctor. But that assumption does not stand up well to challenge. A study reported in the October 1975 issue of *Pediatrics* showed that a considerable number of two-year old patients of physicians in a group practice had not received all of the vaccinations recommended for their age group.

This included many "active" patients, meaning that they had a previous office visit within the past 12 months. Only 76 per cent of the "active" patients and 24 per cent of the

"inactive" ones were up to date with their immunizations.

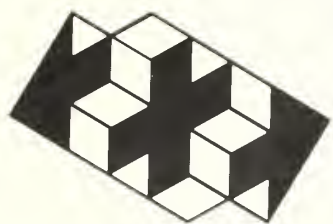
This finding and others like it show that a lot of work remains to be done. The fact that a majority of immunizations are administered by physicians and in private practice shows where the bulk of the burden lies. No doubt much of the blame, if indeed it matters, rests with parents who have allowed themselves to remain ill-informed in spite of the availability of information or who are not adequately motivated to protect the health of their children. But some of the responsibility must be assumed by doctors who have not spoken often enough about the need for vaccination and who have assumed that the children in their care are fully immunized without surveying their records.

In any case, ascribing blame will not solve the problem. And physicians will not solve it without the cooperation of the parents of their patients. But it is equally obvious that the problem will not be solved without an initiative by physicians.

Parents of newborns must be informed, and then reminded, of the need for vaccination. Giving them educational materials helps to reinforce the message and answer the questions people always think of after they leave the office. Giving them copies of the recommended immunization schedule and encouraging them to keep records of their children's vaccinations go even further. Most important of all is the physician's attitude. The doctor who keeps the need for vaccination in mind, reminds his patients, and checks his own records to find out who has been vaccinated and who has not, is likely to be the most thorough and to have the best results.

Something is wrong. Preventable childhood diseases are a continuing menace and unless more children are vaccinated the problem could become much worse. With the means of prevention so readily at hand, substantial outbreaks of polio or a major epidemic of measles or rubella would be a national disgrace. It is time to put a stop to these diseases, and that will not be accomplished without a deep, conscientious, and continuing commitment by physicians in private practice.

Joseph E. Cannon, MD
Rhode Island State
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Comments on “An Appreciation of Henry Thomas Randall, MD”

After retirement from Columbia, Dr. Whipple became Clinical Director at Memorial Hospital for Cancer and Allied Diseases and served in this capacity from July 1, 1947 to July 1, 1951 when he retired, a year later than he had planned. Dr. John S. Lockwood was to have succeeded Dr. Whipple at Memorial Hospital in 1950 as Clinical Director and, in addition, as Chairman of the Department of Surgery at the Memorial and James Ewing Hospitals. Tragically, his brilliant career was ended by coronary thrombosis on June 16, 1950, only two weeks before he was to have assumed his duties at Memorial. Thereupon, in the course of the following year, Dr. Randall was appointed to succeed Dr. Whipple and on July 1, 1951 assumed his duties as Clinical Director and Chairman of the Department of Surgery at Memorial and James Ewing Hospitals. For the next sixteen years, Dr. Randall established a most impressive national and international reputation in

Editor's Mailbox

(continued)

the pursuit of his interests in malignant disease and in surgical metabolism.

Dr. Whipple returned to his alma mater, Princeton University, where he served as counsellor to undergraduate students who were considering a career in medicine, and at the same time, had the privilege of returning to the laboratory to pursue his long-standing interest in the spleen and its circulation. Dr. Allen Oldfather Whipple died on April 16, 1963.

Fiorindo A. Simeone, M.D.

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